Chinese Mathematical Astrology

Reaching out to the stars



Ho Peng Yoke

CHINESE MATHEMATICAL ASTROLOGY

The ability to predict has always been, and remains, an important aim of science. In traditional China, astronomers devised methods of divination that were not only applied to natural events such as weather forecasting, but also to mundane human affairs. The three most sophisticated devices were shrouded in clouds of secrecy. During the eleventh century and for hundreds of years thereafter, candidates were examined on their knowledge of these devices behind the closed doors of the Chinese Astronomical Bureau.

Known by little other than their names, this is the first book in any language that attempts to make an academic study of the three methods, known as the *sanshi* (three cosmic boards), which turned out to have a profound influence on Chinese society.

Ho Peng Yoke has published widely on Chinese alchemy, astronomy, divination and mathematics. He occupied senior academic positions in Singapore, Kuala Lumpur, Australia and Hong Kong before becoming the Director of the Needham Research Institute in 1990. He is an academician of the Australian Academy of Humanities, Academia Sinica and the International Euro-Asia Academy of Science.

NEEDHAM RESEARCH INSTITUTE SERIES

Series Editor: Christopher Cullen

Joseph Needham's 'Science and Civilisation' series began publication in the 1950s. At first, it was seen as a piece of brilliant but isolated pioneering. However, at the beginning of the twenty-first century, it is clear that Needham's work has succeeded in creating a vibrant new intellectual field in the West. The books in this series cover topics relating broadly to the practice of science, technology and medicine in East Asia, including China, Japan, Korea and Vietnam. The emphasis is on traditional forms of knowledge and practice, but without excluding modern studies which connect the topics with their historical and cultural context.

CELESTIAL LANCETS
A history and rationale of acupuncture and moxa
Lu Gwei-Djen and Joseph Needham
With a new introduction by Vivienne Lo

A CHINESE PHYSICIAN
Wang Ji and the Stone Mountain medical case histories
Joanna Grant

CHINESE MATHEMATICAL ASTROLOGY
Reaching out to the stars
Ho Peng Yoke

CHINESE MATHEMATICAL ASTROLOGY

Reaching out to the stars

Ho Peng Yoke

RoutledgeCurzon
Taylor & Francis Group
LONDON AND NEW YORK

First published 2003
by RoutledgeCurzon
11 New Fetter Lane, London EC4P 4EE

Simultaneously published in the USA and Canada
by RoutledgeCurzon
29 West 35th Street, New York, NY 10001

This edition published in the Taylor & Francis e-Library, 2005.

RoutledgeCurzon is an imprint of the Taylor & Francis Group

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
A catalog record for this book has been requested

ISBN 0-203-63363-6 Master e-book ISBN

ISBN 0-203-63734-8 (Adobe eReader Format)
ISBN 0–415–29759–1 (Print Edition)

This book is dedicated
to the memory of

Dr Wu Lien-teh, renowned Plague Fighter and
Founder of Modern Hospitals in China, Healer
and Philanthropist in Southeast Asia

and

Dato Dr Lee Kong Chian, celebrated Industrialist
and Banker in Southeast Asia, Philanthropist
and Patron of Learning and Education

and

their two families in friendship

CONTENTS

LIST OF FIGURES

PREFACE

In the year 1953 I embarked on translating and annotating the astronomical chapters (*tianwenzhi* 天文志) in the official history of the Jin dynasty (251–420) at the suggestion of Joseph Needham (1900–1995). The aim was twofold. Dr Needham considered that a full translation of the astronomical chapters in one of the Chinese official histories was an essential reference for his preparation of the astronomy section in Volume 3 of *Science and Civilisation in China* and, in exchange, my translation and annotations, having benefited from Needham's advice, would serve as the first draft of my doctoral dissertation. Our interest then was mainly confined to the astronomy content of the text, although by modern standards the predominance of astrological material would suggest a different title more in keeping with modern usage. My research was focused on astronomical records in the official dynastic histories as a result of my initial training and employment as a physicist.[1] Thus, my interest in the history of science came essentially from the standpoint of science. This was the same standpoint I adopted whenever I collaborated with Needham on three different occasions in his *Science and Civilisation in China* project.[2]

In 1964 I accepted an invitation to take up the Chair of Chinese Studies at the University of Malaya. In order to avoid working in splendid isolation away from my own colleagues in the humanities and to show the leadership in research as expected of a departmental head, the main thrust of my research turned towards the relation of Chinese science to literature and poetry, with textual collations and dating of texts, and other areas more remote from those taken up by Needham. At the same time, I would take Needham's approach whenever I managed to take time off to work in collaboration with him in his *Science and Civilisation in China* project.

Needham looks at traditional Chinese science from the standpoint of a modern scientist. But it is also interesting to try to see what science was in the mind of a Chinese thinker in a different space and time continuum. My third and last period of collaboration with Needham ended in 1978 when I sent him my draft on the gunpowder epic section of his project.[3] Working in East Asia in the next decade provided me with an opportunity to live among the local communities and to gain a better feeling for their thoughts.

In order to avoid duplicating what Needham and his other collaborators would be writing, I sometimes took different approaches in my research, including trying to see things from the viewpoint of a traditional Chinese scholar – not to conflict with but rather to complement Needham's work.

While I was at the University of Hong Kong between 1981 and 1987, I made a study of a *Dunhuang* manuscript on predictions through the observations of cloud and vapour. In 1983, while walking towards the Royal Hotel in Kyoto with Professor Yano Michio 矢野道雄, my attention was attracted by a fortune-teller who was reading the fate of a client using the *shizu suimei* method. I was reminded of the similarity of this method with that used by a fortune-teller in Canton (modern Guangzhou) during the 1930s to read my own father's horoscope. I thought that there might be some rationale in the method. This eventually resulted in the publication of my book on the *Ziping* method of fate-calculation. It also happened that Yano had become an expert on Hellenistic and Iranian astrology after having spent some time at Brown University to write his doctoral dissertation under the guidance of Professor David Pingree for submission to Kyoto University. Together with Professor Nakayama Shigeru 中山茂, the two provided a friendly source of expertise on Greek, Hindu, Islamic and Japanese astrology. I was able to exchange ideas with them on astrology in congenial surroundings from Hakone to Kyoto and Fukuoka in Japan and, not least, in Cambridge.

Since 1987 I have made frequent visits to Taiwan, mainly to the Academia Sinica in Nankang and the National Tsing-Hua University in Hsinchu. Both institutions have excellent library and working facilities and always made me feel completely at home whenever I went there. I gave public lectures dealing with the *Yijing* to audiences including academics, the general public and practitioners of the art. The Director of the Institute of History of the National Tsing-Hua University at that time was Dr Chang Yung-tang 張永堂. He was then launching a project with the support of the Chiang Ching-kuo Foundation for International Scholarly Exchanges to collect materials on Chinese astrology and various forms of divination, to compile bibliographies and biographies and to hold seminars on the study of *shushu* 術數, which is a general term encompassing all methods for probing the future or calculating the unknown. It was then that I became interested in finding more about the three cosmic boards. During the process I have received much help from Chang Yung-tang and from his able research assistant Miss Hsu Shou-min 許守泯. Other aspects of *shushu* were among the research interests of Professor Fu Daiwei 傅大為 and Professor Huang Yi-Long 黃一農. In a sense, I have always been regarded as the unofficial senior member of the Tsing-Hua *shushu* research team. Chang Yung-tang has arranged for the publication of my collected papers on *shushu*, written during my visits to Taiwan. I also had the opportunity to benefit from the expertise of Professor Ho Ping-ti 何炳棣 on the *Ziping* method of fate-calculation during our mutual visits to the Academia Sinica in Nankang.

Dr Chu Ping-i 祝平一 of the Institute of History and Philology, Academia Sinica, has assisted me in the use of the database of his Institute.

In the 1990s I gave a number of public lectures and seminars on the three cosmic boards in Taiwan, Hong Kong, Xi'an and Singapore. The purpose was to test their reception within the culture where the methods originated and were still practised. I needed to explain that my purpose was not promotion, but to do so without offending practitioners of the trade. I remember an amusing incident in Singapore in the month of August 1997 when, after a public lecture in Chinese delivered at the United Press Auditorium, a member of the audience asked me which was the most accurate and proven divination system that I had found among those I knew. My reply was that not being a practitioner I had never tested any method at all, and I followed this with an apology to my audience for not being able to provide an answer. My lectures in East Asia resulted in a series of publications in Taiwan, Singapore and Xi'an, Shaanxi province. After my experience with mixed audiences in East Asia I had several opportunities to talk about the three cosmic boards in small groups at the Chinese text-reading sessions in Cambridge, both at the Needham Research Institute and at the Faculty of Oriental Studies. My lectures and text-readings form the groundwork of this book.

Sir Geoffrey Lloyd FBA, Professor David McMullen FBA and Professor Francesca Bray have kindly read the draft of this book and made valuable suggestions, and so have Mr Kenneth Robinson and Dr Christopher Cullen. Mr John Moffett has been always ready to draw my attention to new acquisitions of *shushu* publications. Dr Sally Church helped me with editing, while Ms Sue Bennett and Yan Xuefeng 閻學鋒 assisted with the illustrations. Professor Tim Barrett and Professor Marc Kalinowski have read over the manuscript with great care and offered valuable suggestions. To all of them, and to the two institutions in Taiwan mentioned above, I wish to record my heartfelt thanks. Last but not least, it ought to go on record that this work would not have materialized so smoothly without the understanding and assistance of members of my family in Brisbane. Not only has my health been in good hands, state-of-the-art word processing equipment with a low radiating and non-flickering screen was spontaneously made available to me. I count myself a very fortunate writer on this particular score.

'While drinking water one (should) think about its source' (*yin shui si yuan* 飲水思源) – as a Chinese saying goes. I am remembering two friends who were at least one generation my senior but without whom I would not have turned out to be what I am today and without whom perhaps there might not even be a Needham Research Institute in Cambridge. In 1940 I first met the famous plague fighter Dr Wu Lien-teh 伍連德 (1879–1960) (Gnoh Lean Tuck – Emmanuel 1896–1905) in Ipoh when I was only a young lad of fourteen.[4] He gave me much encouragement to go to college, and after my graduation he encouraged me to write. He was interested to

hear about my collaboration with Needham in the *Science and Civilisation in China* project. He and Needham were both students of Sir Frederick Gowland Hopkins albeit some 21 years apart. To encourage Needham, he approached two Singapore tycoons for financial grants. The first person he went to see was the Tiger Balm King, Mr Aw Boon Haw 胡文虎, in the early 1950s.[5] A few years later he spoke to his friend Dato Dr Lee Kong Chian 李光前. To oblige the plague fighter, Dr Lee Kong Chian quietly sent Needham 'a splendid contribution towards the expenses of research' in the late 1950s.[6] This munificent gift must have been the inspiration for Needham as he soon formed the Friends of the Project committee, which included Dr Victor Purcell, to raise funds for the *Science and Civilisation in China* project.

In 1962 Dr Lee Kong Chian (1894–1967) became the first Chancellor of the University of Singapore. I was then Reader in History of Science at the same university. He was extremely friendly and kind to me, and I am sure he must have heard about me from Dr Wu. He showed personal interest in my research on the history of Chinese science in particular and my work in the university in general. I was then responsible for organizing public lectures for the Faculty of Science and on one occasion I invited Sir Harrie Massey of University College London to give a talk. At the luncheon club in his bank building Dr Lee asked me to make a tape recording of the lecture, which he would be unable to attend because of another engagement. I was much touched by the personal interest of a university Chancellor in the academic activities of his university. His interest in the history of Chinese science could be seen from his visit to Gonville and Caius College to call on Dr Needham in 1962 during his world tour. He later told me that he had dinner at Caius as the guest of Dr Needham who was then President of the College. He continued to give me encouragement even after I left the service of the University of Singapore in 1964 to take up the Chair of Chinese Studies at the University of Malaya, Kuala Lumpur. Dr Lee passed away in 1967. He bequeathed half of his estate to the Lee Foundation that he founded and handed over the chairmanship of the Overseas Chinese Banking Corporation, not to one of his sons but to Tan Sri Tan Chin Tuan 陳振傳, his able deputy and friend. Tan Sri Tan Chin Tuan later led the list of benefactors contributing to the building funds for the Needham Research Institute in Cambridge.[7]

Despite Dr Wu's fame in eradicating pestilence and in building modern hospitals in China, and Dr Lee's prestige and immense wealth, which he never talked about himself, charity had always been in their hearts. Members of Dr Wu's family have distinguished themselves in education, in public service and in the legal profession, while those of Dr Lee are widely known and highly esteemed in industry, in education, in the Red Cross, and last but not least in the management of the vast charity foundation they inherited.[8] Although the Lee Foundation operates mainly in Southeast Asia and East Asia, benefaction from a member of the Lee family has even

extended to higher education in Britain and across the Atlantic, in recognition of which the rare distinction of an honorary fellowship of the British Academy was awarded to Dr Lee Seng Tee.

I cherish the thought of having two great men regard me as a friend in spite of the wide gap in age between us, as well as the pleasure of being friends with members of their families. Dr Wu and Dr Lee both took a great interest in libraries and museums and their families are still keeping this fine tradition alive. The Lee Kong Chian Museum at the National University of Singapore and the Bodleian Library in Oxford are only two examples among many. The subject dealt with in this book was often regarded as classified knowledge affecting national security in traditional China, but it has been overtaken by the passage of time and has been shunned by those under the strong influence of the May Fourth Movement. However, the role of *shushu* in shaping Chinese society in the past cannot be ignored. This book attempts to unveil some of the secret knowledge that was hidden in the traditional Chinese Astronomical Bureaux. I hope that it will find a place in many libraries, since both Dr Wu and Dr Lee had taken so much interest in these institutions during their lifetimes. I respectfully and warmly dedicate this work to my two great friends and mentors in their memory, and to their families in friendship.

REFERENCES TO HISTORICAL CHINESE GEOGRAPHICAL NAMES

(adapted mainly from Wei Songshan, ed. (1995))

Baiqing 百頃 (mountain)	SW of modern Xihexian 西和縣 in Gansu province, also called Chouchi 仇池 mountain.
Bingzhou 并州 (prefecture)	One of the traditional nine prefectures, applied to different locations at different periods of time, somewhere in modern Shanxi, Shaanxi and Hebei provinces.
Cai 蔡 (state)	Originally NE of modern Changyuanxian 長垣縣, Henan province, but later moved to SW of modern Shangcaixian 上蔡縣; during the Spring-and-Autumn period the capital was moved to Xincai 新蔡 in modern Xincaixian, Henan province and finally to Xiacai 下蔡 in modern Fengtaixian 風台縣, Anhui province, before it was annexed by the Chu 楚 state in 447 BC.
Chouchi 仇池 (mountain)	Various grades of administrative divisions, such as township, district and prefecture, were once known by this name, which originated from a pool in a mountain in Gansu province. The text in the Historiographer's 'Remarks' refers to the mountain on which the pool named Chouchi was found. See Baiqing (mountain).
Chu 楚 (state)	Territory varied with different periods of history, covering various parts of modern Hubei, Henan, Anhui, Jiangsu and Zhejiang provinces at different periods. Its heyday was during the Spring-and-Autumn and the Warring States periods when its capital was at modern Ji'nancheng 紀南城 NW of modern Jianglingxian 江陵縣, Hubei province.
Han 韓 (state)	First established in the eleventh century BC as a princedom by the first king of Zhou and situated to the east of modern Hejinxian 河津縣, Shanxi province. At the beginning of the Spring-and-Autumn period it was annexed by Jin 晉 state.

	However, it was reestablished during the middle of the fourth century BC, when Jin itself was subdivided into three states. Its capital was first at Pingyang 平陽 (SW of modern Linfenshi 臨汾市, Shanxi province), then at Yiyang 宜陽 (west of modern Yiyangxian, Henan province) and at Yangzhai 陽翟 (modern Yuzhoushi 禹州市, Henan province). Finally it moved to Zheng 鄭 (in modern Xinzhengxian 新鄭縣) after annexing Zheng state, but in 230 BC it was annexed in turn by Qin 秦 state.
Jin 晉 (state)	In modern Shanxi province. Once a powerful state during the Spring-and-Autumn period when its capital was at Xintian 新田, situated to the west of modern Houmashi 侯馬市, Shanxi province. During the middle of the fourth century BC, it was subdivided into the three states of Han 韓, Zhao 趙 and Wei 魏.
Jingzhou 荊州 (prefecture)	One of the traditional nine prefectures, applied to different locations at different times of history, in modern Hubei, Hunan and Guizhou provinces.
Jizhou 冀州 (prefecture)	One of the traditional nine prefectures occupying parts of modern Hebei and Shanxi provinces.
Liangzhou 梁州 (prefecture)	One of the traditional nine prefectures referring to the territory bounded by the Huashan 華山 mountain in Shaanxi province and the Heishui 黑水 river that has not yet been exactly identified. Also the name of an administrative area established at various times in various places in Shaanxi province. In the year 496 the Northern Wei kingdom was renamed Chouchi prefecture Liangzhou (SW of modern Xihexian 西和縣, Gansu province).
Lu 魯 (state)	In modern Shandong province with its capital in Qufu 曲阜, the ancient city east of modern Qufushi, Shandong province.
Qi 齊 (state)	In modern Shandong province with its capital in Linzi 臨淄 (NE of modern Bozishi 博淄市, Shandong province), annexed by Qin Shihuangdi in 221 BC.
Qin 秦 (state)	Originally somewhere in modern Gansu province, but during the Spring-and-Autumn period first moved to Pingyang 平陽 (SE of modern Baojixian 寶雞縣, Shaanxi province) and then to Yong 雍 (south of modern Fengxiangxian 鳳翔縣, Shaanxi province), and during the Warring States period its capital was moved three times until it settled down in the year 350 BC in Xianyang 咸陽 (NE of modern Xianyangshi, Shaanxi province). In 221 BC, Qin Shihuangdi unified China.

Qingzhou 青州 (prefecture) One of the traditional nine prefectures somewhere from Taishan mountain eastward towards the sea. Location of the prefecture as well as its capital changed many times during the course of history. They were at the early stage mainly within modern Shandong province, but later had moved to modern Hebei and Jiangsu provinces.

Sanhe 三河 (prefecture) Traditionally comprising the three sub-prefectures of Hedong 河東 (in Shanxi province with its capital at Yuwangcheng 禹王城 (NW of modern Xiaxian 夏縣, Shanxi province)); Henei 河內 (in Henan province with the capital moved several times in the course of history, at the Jin period in Yewang 野王 in modern Shenyangshi 沁陽市, Henan province); and Henan 河南 (in Henan province with its capital NE of modern Luoyangshi). These formed the three legs of a tripod supporting the 'centre of the heaven' believed to be over its centre (in modern Shanxi and Henan provinces).

Shu 蜀 Abbreviation for Sichuan province.

Shu 蜀 (state) An ancient state in Sichuan province of the Shang and Zhou periods with its capital in Chengdu (modern Chengdu, Sichuan province).

Shu 蜀 (kingdom) The Shu Han kingdom (221–264) with its capital in Chengdu in modern Sichuan province.

Song 宋 (state) Established in early Zhou with its capital at Shangqiu 商丘 (south of modern Shangqiuxian, Henan province). The capital moved to Pengcheng 彭城 (in modern Xuzhoushi, Jiangsu province) during the Warring States period. In the year 286 BC it was annexed by Qi state.

Wei 衛 (state) Established in early Zhou with its capital at Mo 沬 (in modern Qixian 淇縣, Henan province). During the Spring-and-Autumn period the capital moved to Cao 曹 (east of modern Huaxian 滑縣, Henan province), then to Chuqiu 楚丘 (NE of modern Huaxian, Henan province), and finally to Diqiu 帝丘 (SW of modern Puyangxian 濮陽縣, Henan province). In 254 BC it was annexed by Wei 魏 state. Later it was restored with the help of Qin state with its capital in Yewang 野王 (in modern Shenyangshi 沁陽市, Henan province), but finally it was subjugated by Qin Shihuangdi's son.

Wei 魏 (state) A state established in early Zhou north of modern Ruichengxian 芮城縣, Shanxi province. It was conquered by Jin state in 661 BC. In the middle of the fourth century BC, Jin state itself met its fate when it was subdivided into three different states, one of which was Wei. The capital of the new Wei

	state was first in Anyi 安邑 (NW of modern Xiaxian 夏縣, Shanxi province).
(kingdom)	The Wei kingdom (220–264) established by Cao Pi 曹丕 with its capital at Luoyang, Henan province.
Wu 吳 (state)	An ancient state in modern Jiangsu province that grew in strength during the later part of the Spring-and-Autumn period when its capital was in Wu 吳 (modern Suzhou, Jiangsu province), but was annexed by the Yue 越 state in 473 BC.
(kingdom)	(222–280) One of the Three Kingdoms founded by Sun Quan 孫權 in eastern China south of the Yangzi river with its capital in Jianxing 建興 (modern Nanjing, Jiangsu province).
Xuzhou 徐州 (prefecture)	One of the traditional nine prefectures occupying south Shandong province and the region east of Jiangsu province and north of the Yangzi. Its boundaries and capital city changed several times in the course of history. During the Three Kingdoms period the Wei kingdom moved its capital to Pengchengxian 彭城縣, which was subsequently renamed Xuzhou (in modern Xuzhoushi, Jiangsu province). There were many later changes.
Yan 燕 (state)	Established in early Zhou somewhere in modern Hebei province with its capital at Ji 薊 (SW of modern Beijing), and annexed by Qin state in 222 BC.
Yangzhou 揚州 (prefecture)	One of the traditional nine prefectures referring variously to regions south of the Yangzi in modern Zhejiang, Jiangsu, Jiangsi and Fujian provinces. Also the name of one of the 13 administrative regions of Eastern Han in modern Anhui province that was renamed Yuzhou 豫州 on several occasions, but subsequently had the name Yangzhou restored; in the year AD 589 there was a switching over of names – Yangzhou here became known as Shouzhou 壽州, but the name Wuzhou 吳州 (with its capital in Guanglingxian 廣陵縣, NW of modern Yangzhoushi 揚州市, Jiangsu province) was replaced by Yangzhou. Also the name of a prefecture in Jiangsu province with its capital in modern Nanjing, established by the Wu kingdom in the Three Kingdoms period, but which was renamed Jiangzhou 蔣州 in AD 589.
Yanzhou 兖州 (prefecture)	One of the traditional nine prefectures stretching from modern Henan province eastwards to modern Shandong province and part of Hebei province. The location of its capital changed with different dynasties.

Yizhou 益州 (prefecture)	One of the 13 administrative regions established by Western Han in modern Sichuan province. Its capital was at first in Luoxian 雒縣 (north of modern Guanghanxian 廣漢縣, Siquan province), but was moved several times until it came to Chengduxian 成都縣 (in modern Chengdushi). Also the name of a prefecture established in AD 471 by the Northern Wei dynasty with its capital in Yandongxian 燕東縣 (modern Longhuaxian 隆化縣, Hebei province) and the name of another prefecture established by the Liao dynasty (907–1125) in Jilin province, NE China.
Yongzhou 雍州 (prefecture)	One of the traditional nine prefectures in Western China in the region of the Heishui 黑水 and Xihe 西河 rivers that has been variously interpreted as modern Qinghai province, Gansu province and Shaanxi province, together with Shanxi province where the Yellow River flows. Name of several prefectures established at different times in different places. The Qin state established the Qinzhou 秦州 prefecture in 243 BC with its capital in Pubanxian 蒲坂縣 (SW of Yongjixian 永濟縣, Shanxi province), renamed Yongzhou by the Western Han in 134 BC, but later abolished then restored and finally renamed Qinzhou in AD 432 by the Northern Wei dynasty. Also a prefecture established in AD 194 with its capital in Guzangxian 姑臧縣 (modern Wuweishi 武威市, Gansu province), which later moved to Changan 長安 (NW of modern Xi'anshi 西安市, Shaanxi province).
Youzhou 幽州 (prefecture)	One of the traditional nine prefectures in NE China starting from modern Hebei province. One of the 12 administrative divisions established in Western Han with its capital in Jixian 薊縣 (SW of modern Beijing), but the name was changed to Yan 燕 at the fall of the Tang dynasty in the early tenth century. During the fourth century, the Eastern Jin temporarily established a prefecture by the same name with its capital in San'acheng 三阿城 (SE of modern Jinhuxian 金湖縣, Jiangsu province), but soon abolished it.
Yue 越 (state)	Existed from the Xia 夏 to the Warring States period, when its capital was at Guiji 會稽 (modern Shaoxingshi 紹興市, Zhejiang province). In 473 BC it annexed Wu state and moved its capital to Langye 琅琊 (SW of modern Jiaonanshi 膠南市, Shandong province), but was itself later annexed by the Chu 楚 state.

Yuzhou 豫州 (prefecture)	One of the traditional nine prefectures comprising regions in modern Henan, Anhui and Hubei provinces. One of the 12 administrative divisions in Western Han. There were many name changes as well as change of location of the capital city subsequently. One of the better known locations for the capital was Luoyang. It had once changed name with Yangzhou (see Yangzhou prefecture above).
Zhao 趙 (state)	A state instituted during the early Zhou period with its capital somewhere north of modern Hongdongxian 洪洞縣, Shanxi province. Had its capital first in Jinyang 晉陽 (SW of modern Taiyuanshi 太原市, Shanxi province) during the Warring States period and later in Handan 邯鄲 (SW of modern Handanshi, Henan province). In 222 BC it was annexed by Qin state.
Zheng 鄭 (state)	A state instituted during the early Zhou period with its capital in modern Huaxian 華縣, Shaanxi province. The capital was moved to Xinzheng 新鄭 (modern Xinzhengxian, Henan province) during the eighth century BC. In 375 BC it was annexed by Han 韓 state.

A BRIEF NOTE ON CHINESE ROMANIZATION

There are several systems for the romanization of Chinese characters. The *pinyin* system, which is the official system adopted in the People's Republic of China, has now become popular among Western scholars. This official system does not apply to Chinese personal names outside the PRC that are romanized in other ways.[1] Another system which used to be adopted almost universally in the English-speaking world and is still in use is the Wade–Giles system, which originated from Cambridge, England. Joseph Needham modifies the Wade–Giles system in his *Science and Civilisation in China* and his other publications on Chinese science and China by replacing the aspirate '' with the letter 'h' and sometimes omitting the circumflex mark over the letter 'e'. A conversion table is given below for easy reference.

From Pinyin *to Wade–Giles*

Pinyin	*Wade–Giles*	Pinyin	*Wade–Giles*	Pinyin	*Wade–Giles*
a	a	ca	ts'a [tsha]	chuang	ch'uang [chhuang]
ai	ai	cai	ts'ai [tshai]	chui	ch'ui [chhui]
an	an	can	ts'an [tshan]	chun	ch'un [chhun]
ang	ang	cang	ts'ang [tshang]	chuo	ch'o [chho]
ao	ao	cao	ts'ao [tshao]	ci	tz'u [tzhu]
		ce	ts'ê [tshê]	cong	ts'ung [tshung]
ba	pa	cen	ts'ên [tshên]	cou	ts'ou [tshou]
bai	pai	ceng	ts'êng [tshêng]	cu	ts'u [tshu]
ban	pan	cha	ch'a [chha]	cuan	ts'uan [tshuan]
bang	pang	chai	ch'ai [chhai]	cui	ts'ui [tshui]
bao	pao	chan	ch'an [chhan]	cun	ts'un [tshun]
bei	pei	chang	ch'ang [chhang]	cuo	ts'o [tsho]
ben	pên	chao	ch'ao [chhao]		
beng	pêng	che	ch'ê [chhe]	da	ta
bi	pi	chen	ch'ên [chhên]	dai	tai
bian	pien	cheng	ch'êng [chhêng]	dan	tan
biao	piao	chi	ch'ih [chhih]	dang	tang
bie	pieh	chong	ch'ung [chhung]	dao	tao
bin	pin	chou	ch'ou [chhou]	de	tê
bing	ping	chu	ch'u [chhu]	dei	tei
bo	po	chuai	ch'uai [chhuai]	den	tên
bu	pu	chuan	ch'uan [chhuan]	deng	têng

Pinyin	*Wade–Giles*
di	ti
dian	tien
diao	tiao
die	tieh
ding	ting
diu	tiu
dong	tung
dou	tou
du	tu
duan	tuan
dui	tui
dun	tun
duo	to
e	ê,o
en	ên
eng	êng
er	êrh
fa	fa
fan	fan
fang	fang
fei	fei
fen	fên
feng	fêng
fo	fo
fou	fou
fu	fu
ga	ka
gai	kai
gan	kan
gang	kang
gao	kao
ge	ko
gei	kei
gen	kên
geng	kêng
gong	kung
gou	kou
gu	ku
gua	kua
guai	kuai
guan	kuan
guang	kuang
gui	kuei
gun	kun
guo	kuo
ha	ha
hai	hai
han	han
hang	hang
hao	hao
he	ho
hei	hei
hen	hên
heng	hêng
hong	hung
hou	hou
hu	hu
hua	hua
huai	huai
huan	huan
huang	huang
hui	hui
hun	hun
huo	huo
ji	chi
jia	chia
jian	chien
jiang	chiang
jiao	chiao
jie	chieh
jin	chin
jing	ching
jiong	chiung
jiu	chiu
ju	chü
juan	chüan
jue	chüeh, chio
jun	chün
ka	k'a [kha]
kai	k'ai [khai]
kan	k'an [khan]
kang	k'ang [khang]
kao	k'ao [khao]
ke	k'o [kho]
kei	k'ei [khei]
ken	k'ên [khên]
keng	k'êng [khêng]
kong	k'ung [khung]
kou	k'ou [khou]
ku	k'u [khu]
kua	k'ua [khua]
kuai	k'uai [khuai]
kuan	k'uan [khuan]
kuang	k'uang [khuang]
kui	k'uei [khuei]
kun	k'un [khun]
kuo	k'uo [khuo]
la	la
lai	lai
lan	lan
lang	lang
lao	lao
le	lê
lei	lei
leng	lêng
li	li
lia	lia
lian	lien
liang	liang
liao	liao
lie	lieh
lin	lin
ling	ling
liu	liu
lo	lo
long	lung
lou	lou
lu	lü
luan	luan
lue	lüh
lun	lun
luo	lo
ma	ma
mai	mai
man	man
mang	mang
mao	mao
mei	mei
men	mên
meng	mêng
mi	mi
mian	mien
miao	miao
mie	mieh
min	min
ming	ming
miu	miu
mo	mo
mou	mou
mu	mu
na	na
nai	nai
nan	nan

Pinyin	*Wade–Giles*
nang	nang
nao	nao
nei	nei
nen	nên
neng	nêng
ni	ni
nian	nien
niang	niang
niao	niao
nie	nieh
nin	nin
ning	ning
niu	niu
nong	nung
nou	nou
nu	nu
nü	nü
nuan	nuan
nüe	nio
nuo	no
o	o, ê
ou	ou
pa	p'a [pha]
pai	p'ai [phai]
pan	p'an [phan]
pang	p'ang [phang]
pao	p'ao [phao]
pei	p'ei [phei]
pen	p'ên [phên]
peng	p'êng [phêng]
pi	p'i [phi]
pian	p'ien [phien]
piao	p'iao [phiao]
pie	p'ieh [phieh]
pin	p'in [phin]
ping	p'ing [phing]
po	p'o [pho]
pou	p'ou [phou]
pu	p'u [phu]
qi	ch'i [chhi]
qia	ch'ia [chhia]
qian	ch'ien [chhien]
qiang	ch'iang [chhiang]
qiao	ch'iao [chhiao]
qie	ch'ieh [chhieh]
qin	ch'in [chhin]
qing	ch'ing [chhing]
qiong	ch'iung [chhiung]

Pinyin	*Wade–Giles*
qiu	ch'iu [chhiu]
qu	chü [chhü]
quan	ch'üan [chhüan]
que	ch'üeh [chhüeh]
	ch'io [chhio]
qun	ch'ün [chhün]
ran	jan
rang	jang
rao	jao
re	jê
ren	jên [jen]
reng	jêng
ri	rih
rong	jung
rou	jou
ru	ju
rua	jua
ruan	juan
rui	jui
run	jun
ruo	jo
sa	sa
sai	sai
san	san
sang	sang
sao	sao
se	sê
sen	sên
seng	sêng
sha	sha
shai	shai
shan	shan
shang	shang
shao	shao
she	shê
shei	shei
shen	shên
sheng	shêng, sêng
shi	shih
shou	shou
shu	shu
shua	shua
shuai	shuai
shuan	shuan
shuang	shuang
shui	shui
shun	shun

Pinyin	*Wade–Giles*
shuo	shuo
si	ssu
song	sung
sou	sou
su	su
suan	suan
sui	sui
sun	sun
suo	so
ta	t'a [tha]
tai	t'ai [thai]
tan	t'an [than]
tang	t'ang [thang]
tao	t'ao [thao]
te	t'ê [thê]
teng	t'êng [thêng]
ti	t'i [thi]
tian	t'ien [thien]
tiao	t'iao [thiao]
tie	t'ieh [thieh]
ting	t'ing [thing]
tong	t'ung [thung]
tou	t'ou [thou]
tu	t'u [thu]
tuan	t'uan [thuan]
tui	t'ui [thui]
tun	t'un [thun]
tuo	t'o [tho]
wa	wa
wai	wai
wan	wan
wang	wang
wei	wei
wen	wên
weng	ong
wo	wo
wu	wu
xi	hsi
xia	hsia
xian	hsien
xiang	hsiang
xiao	hsiao
xie	hsieh
xin	hsin
xing	hsing
xiong	hsiung
xiu	hsiu
xu	hsü

Pinyin	*Wade–Giles*	Pinyin	*Wade–Giles*	Pinyin	*Wade–Giles*
xuan	hsüan	za	tsa	zhong	chung
xue	hsüeh, hsio	zai	tsai	zhou	chou
xun	hsün	zan	tsan	zhu	chu
		zang	tsang	zhua	chua
ya	ya	zao	tsao	zhuai	chuai
yan	yen	ze	tsê	zhuan	chuan
yang	yang	zei	tsei	zhuang	chuang
yao	yao	zen	tsên	zhui	chui
ye	yeh	zeng	tsêng	zhun	chun
yi	i	zha	cha	zhuo	cho
yin	yin	zhai	chai	zi	tzu
ying	ying	zhan	chan	zong	tsung
yo	yo	zhang	chang	zou	tsou
yong	yung	zhao	chao	zu	tsu
you	yu	zhe	chê	zuan	tsuan
yu	yü	zhei	chei	zui	tsui
yuan	yüan [yuan]	zhen	chên [chen]	zun	tsun
yue	yüeh, yo	zheng	chêng	zuo	tso
yun	yün	zhi	chih		

Note: Needham's modification is shown within [ ]; the umlauts shown are often dispensed with by Needham.

1

INTRODUCTION

When West knows East, and East knows West,
'Tis then the twain shall meet.

The above may be an optimistic response to Kipling's famous words but this book attempts to further the understanding of traditional Chinese culture, both in the West and in the East, by unveiling the secrets of the three Chinese cosmic boards. These methods of astronomical-cum-divinatory calculations had exerted a profound influence on traditional China over a very long period. They show their presence in some hitherto obscure passages in the literature and in various aspects of Chinese culture. To understand them it is necessary to take note of the cultural differences between past and present as well as between East and West. As pointed out by Lloyd (2000), science developed very differently in Babylonia, China and Greece, both in the nature of the investigations undertaken, and in terms of the social and intellectual institutions within which the investigators worked.

The traditional Chinese reached out to the stars in several ways, although obviously not physically. In mythology and in the novels, human beings turn holy immortals and travel among the stars; in Daoism the devotee reaches out to space by imagination during meditation or in liturgy; while in the three cosmic boards the operator contacted the stars by sheer calculation. Stars to the traditional Chinese were not entirely materialistic in the modern sense, but were composed of *qi* and occupied by spirits. The operator of the cosmic boards was thus able to attempt to derive data or messages from the stars and make interpretations therefrom. This process of calculations and making interpretations constituted the most advanced form of traditional Chinese mathematics.

Meaning of the term *mathematics* in traditional China

In the study of the history of science in China it is important to remember that Chinese terms do not necessarily convey exactly the same meaning to a modern scholar as they did in traditional China. A case in point is the word

shuxue 數學, which is now a universally accepted Chinese equivalent for the modern English term *mathematics*. This is no surprise when one is reminded of the fact that in mediaeval Europe the same word did not mean exactly the same as it does to us. The Roman writer Boethius (c.480–c.525) defined *mathematics* as astronomy, arithmetic, geometry and music, which later became the *quadrivium* in mediaeval European universities. The Chinese term *shuxue* was first adopted as the technical term for mathematics only in the middle of the nineteenth century by Li Shanlan 李善蘭 (1811–1882) and was not officially adopted until the beginning of the twentieth century. In traditional China the term had a much broader meaning. *Shuxue* used to refer to what we now call mathematics, natural philosophy, numerology, divination, astronomy, astrology, *fengshui* 風水 (geomancy) and music. Indeed, mathematics was only regarded as the elementary segment of *shuxue*, as clearly stated in the Preface of Qin Jiushao's 秦九韶 (1202–1261) *Shushu jiuzhang* 數書九章 and in what Liu Hui 劉徽 wrote earlier in the year AD 260 in his *Jiuzhang suanshu* 九章算術.[1] The opening paragraph of Qin Jiushao's book contains the sentence 'If we aim at the great, we can be in touch with the spiritual powers and thus live conformably with our destinies; if we aim at the small, we can settle the affairs of this life, and by classification deal with the myriad phenomena.'[2] Qin Jiushao goes on to classify mathematics into 'esoteric mathematics' (*neisuan* 內算) and 'exoteric mathematics' (*waisuan* 外算). What Qin refers to as esoteric mathematics is more often referred to as *shushu* 術數, a general term that included not only mathematics but also astronomy, astrology, music and divination, and exoteric mathematics is what modern scholars understand by the word 'mathematics'.

At first sight it seems that modern historians of mathematics can simply reverse the order of priority of the traditional Chinese and take only the exoteric component in Chinese mathematics. However, esoteric mathematics also included problems of calculating the unknown, such as the method in Qin Jiushao's *Shushu jiuzhang* to find out the number of years from the Great Epoch in Yixing's 一行 *Dayanli* 大衍曆 calendar system and the remainder theorem that first appeared in the *Sunzi suanjing* 孫子算經. Modern historians of Chinese science have already taken this particular mathematical aspect of Chinese esoteric mathematics into account. Sinologists have also made substantial contributions to the study of Chinese divination and the *Yijing* 易經 (Book of Changes). What Joseph Needham (1956) writes under sections 13, 14 and 16 in *Science and Civilisation in China*, volume II, suggests that knowledge of *shushu* is a prerequisite for the understanding of his *magnum corpus*. In his Author's Notes, he also points out that 'the first necessity is to apprehend the deeply organic and non-mechanical quality of Chinese naturalism'.

Chinese divination

Interest of the traditional Chinese people in the prediction of human events is well known.[3] Evidence of divination can be found in the earliest Chinese written records in the form of the oracle bones, with which the oracle officials made predictions for the Yin 殷 kings. In the Zhou 周 dynasty (1030?–221 BC), the court also enlisted the service of diviners using milfoil, probably according to some system interpreted from the *Yijing* 易經 (Book of Changes), besides retaining the service of oracle officials. Even the heads of state in the period of the Warring States (480–221 BC) employed their own oracle bones and *Yijing* system experts. From the *Zuozhuan* 左傳 (Master Zuo Qiuming's 左丘明 Enlargement of the Spring and Autumn Annals) one can note the vagueness, or flexibility if one may like to call it, of the interpretations of the *Yijing* system as well as the divergent messages from different groups of diviners. The systems themselves were seldom in doubt, but making correct interpretations was the issue. The system of the *Yijing* in fact became one of the bases of Chinese thought, while the oracle bones fell out of use. Many different schools of interpretation on the *Yijing* system were developed since the Han period (202 BC–AD 220), and captured the attention of the *literati*.

The oracle bones and the *Yijing* Hexagrams were not the only methods used in divination. A system of astrology was developed during the time of the Spring-and-Autumn period (722–480 BC) that was supposed to enable the emperor and the feudal lords to read their fortunes and destinies from the signs given by the heavenly bodies. Eclipses, conjunctions of planets, comets, meteors, clouds and vapours were dutifully observed by the ruling house in the belief of there being a mutual influence between men and heaven. Earthquakes, natural disasters and unseasonable rain and snow were also believed to come under the same influence.[4] A form of astrology that was relevant only to the ruling class was thus developed. The common people also had their own forms of divination, although they were generally far less sophisticated than those employed by the ruling class. Modern archaeology provides evidence that the method of selecting auspicious days (*zeri* 擇日) was already practised during the time of the Warring States period. None of the methods mentioned above used for divination involved elaborate calculations, although the manipulation of milfoil in the *Yijing* system did require some amount of counting. Ultimate knowledge in traditional mathematics must have been that of the 'numbers of the heavens' and how to calculate them. This must have been referring to the traditional Chinese *shushu par excellence*. Such knowledge was employed in the three cosmic boards, which were not as commonly known as other divinatory systems.

The *literati*, for example, held much respect for the *Yijing* system and knew it far better than the common people. However, Chinese novels refer to the secret arts of the cosmic boards that were supposed to yield much

more precise interpretations than the *Yijing* system. In the *Hongloumeng* 紅樓夢 (Dreams of the Red Mansions), Jia Rong 賈蓉 consults Mao Banxian 毛半仙 for a prognosis of his mother's illness. Mao uses the *Yijing* system but finds the message too vague to make an accurate prediction. With the consent of Jia Rong, he follows this with *Liuren* 六壬 prognostication, which tells that the patient will remain sick for some time but will eventually recover. Although the *Liuren* system was probably already in use during the Warring States period, it has escaped the attention of the academic world until quite recently. There were also other systems. Ge Hong's 葛洪 (283?–343?) *Baopuzi neipian* 抱朴子內篇 refers to the mystic arts of *Dunjia* 遁甲 and *Qimen* 奇門. A passage in the *Nan Qi shu* 南齊書 (Official History of Southern Qi Dynasty) has something to do with the *Taiyi jiugong suan* 太乙九宮算 method. These methods, being arcane as well as rather sophisticated, have hitherto received little attention from scholars, both traditional and modern.

There are several reasons why these sophisticated methods did not receive due attention from traditional scholars. The first was the general attitude towards studies beyond the requirements for the civil service examinations, in which the Confucian classics predominated. It is interesting to observe that because the *Yijing* was included among the Confucian classics, it received much respect from traditional scholars. The commentator of the *Liuren daquan* 六壬大全 (Great Compendium on *Liuren*) in the *Siku quanshu zongmu tiyao* 四庫全書總目提要 must have considered that the *Yijing* already contained all sufficient knowledge when he underrated the book under review by saying that *Liuren* was a mere derivative of the *Yijing*. Yet Gao E's 高鶚 continuation of the *Hongloumeng* 紅樓夢 indicates the superiority of the *Liuren* method over that of the *Yijing*, and Li Ruzhen's 李汝珍 *Jinghuayuan* 鏡花緣 (Mirror of the Flowers) hints that *Liuren* was an important item that should not be found missing from a scholar's repertoire of knowledge.[5] A second reason was the confidential nature of these methods, as they were looked upon as having deep implications with military affairs. They were often regarded as part of the classified corpus of knowledge, taught and practised only within the walls of the Astronomical Bureau or the imperial court. Both scholarly neglect and bureaucratic secrecy have adversely affected the availability of books and written records on the subject to modern scholars. A third reason was the overwhelming amount of technical terms on the subject that would discourage the uninitiated from trying to understand these sophisticated systems.

Neo-Confucian natural philosophy

Neo-Confucian scholars before Zhu Xi 朱熹 (1130–1200) had made a theoretical study of the natural world and merged natural philosophy with ethics in the light of the traditional Chinese concept of harmony between

human beings and nature – *tian ren he yi* 天人合一. Their ethics were based on the teaching of Confucius, while their natural philosophy was rooted in the *Yijing*. In Northern Song China there was also growing interest in two charts or diagrams mentioned in the *Yijing*, namely the 'River Chart' *hetu* 河圖 and the 'River Luo Writings' *Luoshu* 洛書. There developed the 'Symbolic Numerology' *xiangshu* 象數 school that was then devoted to the study of different relations among the hexagrams of the *Yijing* and these two diagrams.[6] It was within this intellectual environment that some neo-Confucian thinkers became involved in the study of natural philosophy and ethics. Among the writings of the neo-Confucian scholars are found some interesting ideas that were also important in the Western scientific tradition. Zhu Xi, for example, touched on the idea of infinite greatness and infinite smallness, saying that what is infinitely big has nothing 'outside', and what is infinitely small has nothing 'inside': in other words, the infinitely small is indivisible. Zhu Xi explained the idea of inertia by taking the example of a cart. It would require an applied force to set it in motion, but once in motion the starting force would no longer be needed. He expressed his observation of relative motion by taking two wheels rotating about the same axis at different speeds. The one rotating more slowly would seem to an observer on the faster wheel to be rotating in the opposite direction. He also noted the existence of centrifugal force, observing that water in a revolving vessel would not spill even when the vessel was upside down.[7]

The three cosmic boards

There is a conspicuous lack of mathematical calculations in neo-Confucian studies of nature and natural phenomena. Even Shao Yong 邵雍 (1011–1077), who was reputed to be an expert on a form of the *Liuren* system known as *meihuashu* 梅花數 (plum blossom numerology), did not use mathematics to explain science. It was not generally known that hidden within the walls of the Song Imperial Palace were methods other than the system of the *Yijing* that were used in the Astronomical Bureau. As the methods used in the Astronomical Bureau were often secret in nature, they were known only to a very few and were probably unknown to most neo-Confucian scholars except by name only. In eleventh-century Song China the Astronomical Bureau examinations syllabus included the method of the three cosmic boards (*sanshi* 三式), comprising the method of *Taiyi* 太乙 (太一), the method of concealing the *Yang Wood* (*Dunjia* 遁甲), and the method of employing the six sexagenary cyclical members with the *Yang Water* stem (*Liuren* 六壬). These methods have hitherto received little attention from Sinologists and historians of Chinese science alike. They are not dealt with in Joseph Needham's *Science and Civilisation in Chi*na. It was only in the second decade before the turn of the millennium that Yan Dunjie 嚴敦傑 published an article on the cosmic boards in the *Kaogu xuebao*, which was preceded by a translation into Japanese by Hashimoto

Keizō and Sakade Yoshinobu.[8] Due to their semi-secret nature the methods of the three cosmic boards have never been known by more than a very few people. Writings on these methods were obscure in style, comprehensible only within the profession and, at the same time, less accessible than other writings and more liable to become lost.

We are indebted to the patronage of the Song Emperor Renzong 仁宗 (reigned 1023–1063) for the accessibility of the more important writings on the three cosmic boards. He ordered a team of officials in the Astronomical Bureau led by Yang Weide 楊惟德 to compile monographs on the cosmic boards, namely the *Jingyou Taiyi fuyingjing* 景祐太乙福應經 (Canon of Auspicious Responses from the *Taiyi* (Board) compiled during the Jingyou Reign-Period), the *Jingyou Dunjia fuyingjing* 景祐遁甲符應經 (Canon of Responsive *Dunjia* Techniques compiled during the Jingyou Reign-Period), the *Jingyou Liuren sendingjing* 景祐六壬神定經 (Canon of Spiritual Readings from the *Liuren* Boards compiled during the Jingyou Reign-Period), and others. This team of officials in the Astronomical Bureau also had to write chapters on the three cosmic boards for the military compendium *Wujing zongyao* 武經總要 (Collection of the Most Important Military Techniques), again compiled by Zeng Gongliang 曾公亮 in 1040 under imperial order. The writings of Yang that still remain are now the most valuable sources on the three cosmic boards. It would seem that the best approach for a formal investigation into the three cosmic boards is a full translation and annotations of Yang's writings. However, unfortunately some of Yang's writings do not survive now in their complete original form. For example, both the *Jingyou Taiyi fuyingjing* and the *Jingyou Dunjia fuyingjing* do not exist in their original complete text and we can no longer learn the procedures for the *Liuren* method from his *Jingyou Liuren sendingjing*. Thus, a preliminary general study of the three cosmic boards must precede any attempt to translate these works.[9]

Being the earliest text containing the *Taiyi* system as well as one universally accepted by the Chinese *literati*, a passage from the *Nan Qi shu* (Official History of the Southern Qi Dynasty) is selected to introduce and describe that cosmic board in Chapter 3. Certainly, the text itself does not tell us explicitly about the system, yet from the data it contains it is quite possible to trace the system employed by its sixth-century author and in the process demonstrate that it was essentially similar to that used during the time of Yang. The most important application of the *Qimen Dunjia* system was in the art of war and to the layman both its name and its system were shrouded in mystery. In Chapter 4 an arcane military manual, namely the *Huangdi yinfujing* 黃帝陰符經, serves the purpose of introducing the system. It is the text of choice over a similar but more lengthy text, the *Yanbo diaosouge* 煙波釣叟歌, because of its brevity. In Chapter 4, three passages from Shen Gua's 沈括 (1031–1095) *Mengxi bitan* are used to introduce the *Liuren* cosmic board system and bring out an important point in the progress of scientific thinking. The translations and annotations of these passages

are followed by a description of the manipulation of the *Liuren* cosmic board.

It is interesting to note that Yang Weide was a student of the astronomer Han Xianfu 韓顯符 (938?–1013?) who constructed the earliest Song armillary sphere known as the Zhidaoyi 至道儀 in the year 985. He was a senior official in the Astronomical Bureau during the time of the emperor Renzong and, as we have already noted, he was mainly responsible for the official texts on the three cosmic board systems. Eventually, he rose to the rank of directorship of the Astronomical Bureau.[10] He was however later dismissed from his post in the Astronomical Bureau, and in the following decade Shen Gua was appointed to a similar post, and Shen Gua had a very bad opinion of Yang.[11] Without passing judgement we need only to note Yang's contributions to the writings on the three cosmic board systems against just a few jottings on the *Liuren* system, irrespective of the great reputation enjoyed by the name Shen Gua among modern historians of science. Although Shen Gua does not say much about the manipulation of the *Liuren* cosmic board in his *Mengxi bitan*, he does touch upon some fundamental ideas on which the system is based and offers his criticisms and suggestions for improving the system. No reform in the system resulted from Shen Gua's comments, but his spirit of scepticism and courage to challenge established thinking is remarkable within the context of history of science.

Scientific activities involved knowledge of the natural world and the ability to change or harness it. Such knowledge and ability, for example, were accorded to Zhuge Liang 諸葛亮 (AD 181–234) in the fourteenth-century novel *Sanguo yanyi* 三國演義 (*Romance of the Three Kingdoms*). Other novels mention similar mystical arts and magical powers. Although they were the products of the writers' fertile imaginations they probably originated from knowledge that the authors had at least heard of. Some can be traced to knowledge that can be subjected to rational enquiries, but others not. Occasionally, one even finds passages referring to these arts in the literature. These passages seemingly have just been passed over by traditional Chinese scholars, judging from the lack of commentaries and annotations on them, where much could have been written. Those that could not be subjected to rational enquiries belong to the realm of mysticism and magic, and many of these were of Daoist origin. Understanding the three cosmic boards is the key which unlocks many obscure passages in Chinese literature that refer to them, and can enable the reader to appreciate what Qin Jiushao meant by his statement that 'we can be in touch with the spiritual powers and thus live conformably with our destinies', quoted above. Furthermore, a knowledge of the three cosmic boards can also provide scholars engaged in annotating Chinese classical literature with new tools for their work.[12]

The three cosmic boards will also be of special interest to historians of science. Predictions of meteorological events were regularly performed

at the Astronomical Bureau and they were accomplished by calculations involving the use of astronomical data. Shortly before the scientific revolution in Europe, a great attraction of science was its ability to make it possible to calculate and predict the occurrence of natural phenomena. Tycho Brahé (1546–1601) observed the occurrence of a solar eclipse on 21 August 1560 at the precalculated time and became motivated to study this branch of science that permits such wonderful possibilities of prediction. Mathematical calculations became an indispensable tool to physical science. It is not widely known that traditional Chinese astronomers five centuries before Tycho had already attempted to calculate and predict the occurrence of natural phenomena, although their efforts did not ultimately lead towards a scientific revolution in traditional China. Perhaps this can be attributed to the Chinese preference for not discriminating between natural observations that were measurable and human actions that were not.

In the study of the history of science, due recognition to the role of magic has to be given in the early development of what we now call ‘science’. The Cambridge anthropologist J.G. Frazer stated two laws on magic. For the ancient magician there was an unwritten law of similarity, of like producing like, and there was also one of contiguity or contagion, where things that have been in contact, but are no longer so, continue to act upon one another. Indeed these two laws, together with the law of chance, can account for much of the divinatory arts in traditional China. They also to a certain degree explain the three cosmic boards, after taking into consideration a new dimension that involves the employment of astronomical data and mathematical calculations. At least one modern writer has classified one of the three cosmic boards as a ‘mystic art’.[13] Indeed, to the traditional Chinese the three cosmic boards were regarded as arcane, and consequently were closely guarded secrets that were certainly not meant to be given public hearing. However, it is not the intention here to treat the cosmic board systems as mystic.

What science was to the traditional Chinese

Even today the word *science* does not have exactly the same meaning in different European languages. Its nearest German equivalent is *Wissenschaft,* which includes all systematic study, such as what we call science, but also what we call history, philosophy and philology. We should not be surprised to hear from a historian in Russia that he is doing scientific research. In China the word *kexue* 科學, derived probably from the Japanese *kagaku*, only came to be used for the word science in the middle of the nineteenth century. In this book we shall take science to mean two things, the general concept of the ‘knowledge of the natural world’ and the idea of ‘controlling or harnessing nature and the environment’. The same thought must have existed in the minds of different peoples in the past, long before the terms science and *kexue* were established. Moreover, the concept of science has

varied in the course of time as well as in different civilizations. In traditional China, science came within the realm of the esoteric mathematics division of *shuxue* 數學, generally known as *shushu* 術數.

To a modern scientist, such as Needham, *shushu* may be considered a kind of pseudo-science. However, in traditional China it was what people meant by science. Even after the arrival of the Jesuits in the seventeenth century, Chinese thinkers equated Western science with the neo-Confucian *li*, *qi* and *shu*. Fang Kongzhao 方孔炤 (1591–1655), who became acquainted with Western science through his Jesuit friends, classified *li* into *zhili* 至理 (ultimate *li*), *wuli* 物理 (material *li*) and *zaili* 宰理 (presiding *li*), under *wuli*, a term used to denote Western science at that time.[14] A school of teaching originated by Fang Kongzhao was developed by his son Fang Yizhi 方以智 (1611–1671) and his grandson Fang Zhongtong 方中通 (1634–1688). Another member of the Fang school, You Yi 游藝 (1614?–1684), spoke about *li* as being both within *shu* (*li* zai *shu* zhong 理在數中) and within *qi* (*li* zai *qi* zhong 理在氣中). His teaching of *gewu qiongli* 格物窮理 (distinguishing things and exhausting the *li*) influenced Japanese scientific thought in the seventeenth century. Wang Xichan 王錫闡 (1628–1681) also referred to *qiongli* and also talked about *li* generating *shu* (*li* sheng *shu* 理生數) and seeking *li* from *shu* (yin *shu* qiu *li* 因數求理).[15]

A basic difference between East and West

The three cosmic board systems use terms referring concurrently both to heavenly bodies and to spirits. In other words, the same term refers to both matter with form and matter without form. This is so when we take Zhu Xi's definition of *shen* 神 as '*qi* in expansion' and *gui* 鬼 as '*qi* in contraction'. The *Liuren* system introduces yet another dimension of matter without form by referring to something that reminds us of what we now call the sixth sense and telepathy. Hence, what the traditional Chinese person viewed as *science* embodied the non-materialistic world as well as the tangible. It is interesting to note that the three cosmic board systems attempted to study both the material and the non-material worlds by setting up *mathematical* relations between the two. In the West, the best known among the ideas that have been considered as a new approach of modern science is perhaps Hegel's (1770–1831) 'Philosophy of Identity', so called because it proclaimed the identity not only of subject and object but also of contradictions, such as existence and non-existence. According to Hegel, both the spirit world and the material world resulted from thought on the part of a creative mind, which he supposed to be similar in kind to the human mind. Hence the human mind was competent to think the thoughts of the Creator and rediscover them by its own inner activities.[16] Hegel did not receive enthusiastic support for this idea in Europe, where modern science was built on the foundation of the rationalism of the ancient Greek philosophers. Few people outside Japan know about a similar but perhaps even

more subtle idea expressed some 30 years earlier than Hegel by Miura Baien 三浦梅園 (1723–1789). Buddhist philosophy and East Asian culture provided a more fertile ground for the germination of Baien's idea concerning the void than the West provided Hegel in his time. Nishida Kitaro 西田幾多郎 (1870–1945) put forward a proposition that the separation of logic from mysticism was in itself a factor that limited science in the West. The Chinese three cosmic board systems can be looked upon as a case in point, taken from East Asian history, that exemplifies Nishida's proposition.

Ancient Greek philosophers made a distinction between terrestrial and celestial motion. Isaac Newton (1642–1727) with his law of gravitation showed that a general law could be applied to both. Today, while generalization is considered highly desirable, the exponential growth of scientific knowledge has resulted in the compartmentalization of knowledge that has led to the segregation of scientists even within the same discipline. A general theory that is applicable across disciplines will indeed be a great breakthrough in science. The traditional East Asian view was far more universal than Newton's, for it extended beyond the material world. Perhaps it was one of the merits of traditional East Asian science, it may suffer by being in excess, while the Western scientific tradition is being restricted by its own self-imposed limitations. By venturing beyond such limitations, a new world of science may yet be opened to us. Today some people advocate 'fuzzy logic' and the 'chaos theory' as a departure from the rigid Greek rationalism. Perhaps this is a step forward in the direction of the East Asian tradition.[17]

While I make no effort to advocate the three cosmic boards, I would like to tell a story to anticipate some questions that are likely to arise in the minds of readers concerning the Chinese belief in these systems. Li Shimin 李世民, who reigned as Emperor Taizong 太宗 in Tang China between the years 626 and 649, had already asked the celebrated military commander and tactician Li Jing 李靖 (571?–649?) about the same subject. The *Tang Taizong Li Weigong wendui* 唐太宗李衛公問對 (Conversation between Emperor Tang Taizong and Li [Jing], the Duke Wei [guo] gong) informs us that Li Shimin once asked his favourite general whether the use of *Yin* and *Yang* and *shushu* could be discontinued in the art of war (*Yin Yang shushu fei zhi bu ke hu* 陰陽術數廢之不可乎). Li Jing replied, 'No (*bu ke* 不可)' and continued, saying, 'The art of war is an art of deception (*bing zhe gui dao ye* 兵者詭道也). Under the guise of *Yin* and *Yang* and *shushu*, the greedy and the simple-minded can be (easily) deployed. Hence they should not be abolished.' Li Jing went on to give examples of how astrological signs and divination could be taken advantage of by clever interpretations.[18] Psychological warfare, misleading the enemy with false information, classification of secret material, and many other military strategies in modern times, seem to differ little from those in traditional China – there are only differences in terminology, hardware and dimension.

Textual matters

The purpose of this book is to explain the three cosmic boards. However, I do not intend to get the reader too heavily involved with past arguments that are repetitive or that go round in circles, without throwing any new light on the subject. At the same time, I try to avoid treading too much on ground that has already been well covered. Nevertheless, basic ideas that are essential to the understanding of the systems, such as *Yin* and *Yang*, *wuxing*, the *jiugong* magic square and the system of the *Yijing*, are briefly summarized in Chapter 2. Chapters 3, 4 and 5 form the main part of the book. Appendix I and Appendix II are brief accounts of traditional Chinese astrology and the *Ziping* method of fate-calculation. The romanization of Chinese characters follows the *pinyin* system, except for proper names where respect is given to known personal or local preferences for people and places outside mainland China.[19] A conversion table lists *pinyin* romanization together with the Wade–Giles system and the modified Wade–Giles system employed by Needham in the *Science and Civilisation in China* series. The same respect for known personal preference also applies to non-Chinese names. 'References to historical Chinese geographical names' and 'A brief note on Chinese romanization' serve as useful reference points in the prelim material, while appendices illustrating 'Traditional Chinese astrology', 'The *Ziping* method of fate-calculation' and a 'Table of Chinese dynasties', as well as notes, bibliographies of Chinese and Western works and an index, are provided to complete the book.

2

FUNDAMENTAL PRINCIPLES

The three cosmic board systems, as is true of all other forms of *shushu*, operated under the same general basic principles that one encounters in traditional Chinese culture. Certain aspects of these basic principles are characteristically relevant and essential to the understanding of these three cosmic board systems. This chapter summarizes the background knowledge that will be helpful to the reader in understanding these systems.

The neo-Confucian ideas of *li*, *qi* and *shu*

The traditional Chinese belief in the harmony of nature was based on the close relationship between heaven (*tian* 天), earth (*di* 地), and man (*ren* 人), the so-called 'three powers' (*sancai* 三才). This worldview conceived of the harmonious cooperation of all matters in the universe, arising from the fact that they are all parts of a hierarchy of wholes forming a cosmic, organic pattern and obeying the internal laws of their own natures. The great Song neo-Confucianist Zhu Xi 朱熹 (1130–1200) identified two fundamental entities in nature, namely *li* 理 and *qi* 氣. He said, 'Throughout the universe there is no *qi* without *li*, nor *li* without *qi*.' Elucidating these two entities further, he added:

> Throughout heaven and earth there is *li* and there is *qi*. *Li* is the *Dao* (that organizes) all forms (*xing* 形) from above and the root from which all things are produced. *Qi* is the instrument (*qi* 器) that (composes) all forms from below, and the tools and raw material with which all things are made. Thus men and all other things must receive this *li* in their moment of coming into existence, and thus obtain their specific nature (*xing* 性). They must also receive this *qi* in order to get their form (*xing*).

Hence Zhu Xi visualized *li* as something similar to a cosmic and organic pattern and *qi* as something reminding us of our modern concept of matter-energy, if not also the ancient ideas of *pneuma* and *prãna* of the Greeks and the Hindus.[1]

Li and *qi* in operation give rise to another entity, *shu* 數, about which Zhu Xi said: 'When there is *li* there is *qi*, and when there is *qi* there is *shu*. That is to say, *shu* comes between (them).'

The word '*shu*' has a wide range of meanings. In its modern sense it generally refers to 'numbers', 'mathematics' and 'counting'. Less frequently it has the sense of 'to reprimand', 'to discriminate' or 'an art'. In our present context, however, it embraces not only 'mathematics' and 'numerology' but also 'calendrical science' and 'prognostications from the calendar' (*lishu* 曆數) as well as the 'fate and destiny' of people and things at various levels, from the country as a whole to the individual. The various kinds of 'destiny' are known as *tianshu* 天數 (predestination of heaven), *mingshu* 命數 (fate), *dingshu* 定數 (predestination), and *yunshu* 運數 (destiny-cycle). These are in addition to the general term *shushu* 術數 that formerly embraced mathematics, astronomy and astrology, divination and the three cosmic boards. More generally, *shu* refers to the way that the forces of nature operate. The mystic philosopher Zhuangzi 莊子 remarked about the year 290 BC:[2] 'There is something which one gets from without and responds to from within but cannot express in words. It is the *shu* that exists in it.' Taking heed of Zhuangzi's advice, one needs go no further to make futile attempts to express *shu* in words or to render it into another language.

Unlike in Europe, science and the humanities have never parted company in traditional China, where every conceivable thing or phenomenon, from astronomy to astrology, from alchemy to magic, from ethics to politics, and from philosophy to the art of divination, was considered to operate under the same principles of *li*, *qi* and *shu* according to Zhu Xi's school of neo-Confucianism. A minor branch of neo-Confucianism known as the school of Idealism of the Mind, founded by Liu Jiuyuan 陸九淵 (Liu Xiangshan 陸象山) (1139–1192), emphasized personal intuition. Later, it was developed further by Wang Yangming 王陽明 (Wang Shouren 王守仁) (1472–1520), who advocated investigating *li* within one's inner self. Liu and Wang generated much debate on Zhu Xi's teaching among the *literati* in the sixteenth and seventeenth centuries, especially during the time when they were responding to the introduction of Aristotelian science by the early Jesuits. Modifications to and new interpretations of the terms *li*, *qi* and *shu* were made by scholars like Fang Kongzhao 方孔炤 (1591–1655), Fang Yizhi 方以智 (1611–1671) and You Yi 游藝 (1614?–1684).[3] However, the methods of the three cosmic boards had already come to maturity by the time of the Northern Song and commentators on the three cosmic boards generally quoted from the sayings of Zhu Xi.

Yin, Yang and *wuxing*

Zhu Xi identified *li* as *Taiji* 太極 (variously rendered as 'Supreme Ultimate' and 'Supreme Pole'), the ultimate source of all things. Zhou Dunyi 周敦頤 (1017–1073) had said earlier:[4]

> The *Taiji* moves and produces *Yang*. When movement reaches a limit it comes to rest. The *Taiji* at rest produces *Yin*. When the state of rest reaches its limit it returns to a state of motion. Motion and rest alternate, each being the source of the other. *Yin* and *Yang* take up their appointed functions to establish the 'Two Forces' (*liangyi* 兩儀). *Yang* is transformed by combining with *Yin*, and producing *Water*, *Fire*, *Wood*, *Metal* and *Earth*. Then the five *qi* diffuse harmoniously, and the four seasons take their course.

Together *Water*, *Fire*, *Wood*, *Metal* and *Earth* form the five *xing* (*wuxing*), a cluster of power that has been rendered variously as the 'Five Phases', 'Five Agents', 'Five Elements', etc. These translations vary according to the purposes of individual writers. However, in the present context we shall also be referring to the *wuxing* undergoing phases of change according to the seasons. To avoid further ambiguity because of these additional phases, I have left the term '*wuxing*' as it is here without translating it. It is sufficient for our present purposes to think of the *wuxing* as five powerful forces or agents that are in continuous, cyclic motion, unlike the 'fundamental' substances that modern chemists call 'elements'. These five powerful forces find parallel in the Four Elements of the ancient Greeks, and the *catvārimahābhūtāni* in Buddhism.[5] It is interesting to note that when the Jesuits introduced the Four Elements to China the word 'element' was rendered into Chinese as '*yuan* 元', but when they talked about the Chinese *wuxing* they regarded them as 'Five Elements'.

Much has been written on the concept of *wuxing*. Among the earliest works on the subject are the *Huainanzi* 淮南子 (Book of the Prince of Huainan) written by a group of scholars at the household of Liu An 劉安 (c.120 BC), and Dong Zhongshu's 董仲舒 (fl. 179–93 BC) *Chunqiu fanlu* 春秋繁露 (Abundant Dewdrops in Spring-and-Autumn). However, for the study of *shushu* the most important work has been Xiao Ji's 蕭吉 *Wuxing dayi* 五行大義 (Important Meanings of the *Wuxing*), for which the reader can refer to a recent work by Kalinowski.[6] It suffices to give only the bare minimum of description here to facilitate an understanding of the three cosmic boards.

The *wuxing* operate under two fundamental principles: that of Mutual Production (*xiangsheng* 相生) and that of Mutual Conquest (*xiangke* 相剋) (see Figure 2.1). In the order of Mutual Production, *Water* produces *Wood*, *Wood* produces *Fire*, *Fire* produces *Earth*, *Earth* produces *Metal*, and *Metal* produces *Wood*. The process operates in a cycle. In the order of Mutual Conquest, *Water* conquers *Fire*, which conquers *Metal*, which conquers *Wood*, which conquers *Earth*, and which conquers *Water*. The process again operates in a cycle. The word '*ke* 剋' is also rendered here as 'control' and 'subjugate' depending on the context.

From the two fundamental principles of Mutual Production and Mutual Conquest two corollaries are deduced, e.g. the principle of Control (*xiangzhi*

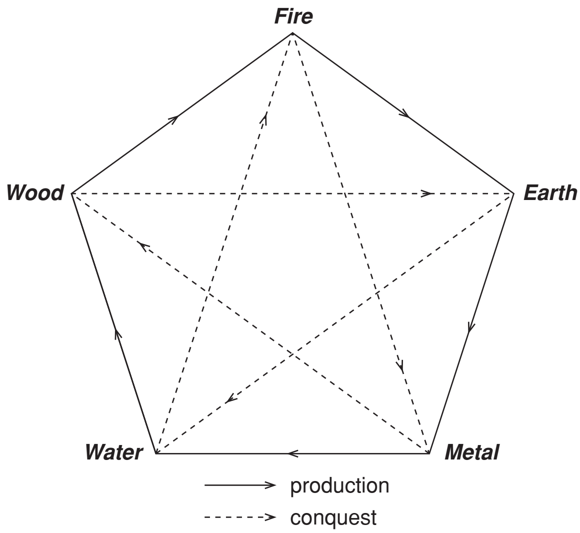


Figure 2.1 Order of Mutual Production and Conquest of *wuxing*.

相制) and the principle of Masking (*xianghua* 相化). The principle of Control says that *Water* conquers *Fire* but the process can be controlled by *Earth* (which controls *Water*); *Fire* conquers *Metal* but the process can be controlled by *Water*; *Metal* conquers *Wood* but the process can be controlled by *Fire*; *Wood* conquers *Earth* but the process can be controlled by *Metal*; and *Earth* conquers *Water* but the process can be controlled by *Wood*. In the principle of Masking, we find that *Water* conquers *Fire* but the process can be masked by *Wood* (which replenishes or produces more *Fire*); *Fire* conquers *Metal* but the process can be masked by *Earth*; *Metal* conquers *Wood* but the process can be masked by *Water*; *Wood* conquers *Earth* but the process can be masked by *Fire*; and *Earth* conquers *Water* but the process can be masked by *Metal*. In the principle of Control, the ancient Chinese seemed to be treading the path of thought that modern scientists use to explain the ecological balance of the animal species. For example, the ladybird feeds on the aphid, but a species of bird in turn feeds on the ladybird. The presence of this kind of bird is beneficial to the aphid because it thins the number of ladybirds. We can also cite an example in public health to show the principle of Masking at work. The number of mosquitoes around the house may be kept down by spraying the rooms with insecticides. However, if empty tins and bottles are left all over the backyard for water to accumulate and mosquitoes to breed in, there will still be mosquitoes around the place. These principles are the very basics that any student of the three cosmic boards or the art of fate-calculation must first learn.

Ordinals and the sexagenary cycle

According to the *shushu* theorists, the *wuxing* possess both *qi* and material forms (*zhi* 質). Their *qi* circulate in the sky and heavens (*tian* 天) above, while their material forms find their places on the earth (*di* 地) below. Their motion and rest, or their expansion and contraction, give rise to the two states of *Yang* 陽 and *Yin* 陰. Hence the ordinals of the ten 'celestial stems' (*tiangan* 天干) and those of the 12 'terrestrial branches' (*dizhi* 地支) are produced.[7] (See Table 2.1.)

Table 2.1

Wuxing	*Celestial stem*		*Terrestrial branches*	
	Yang	*Yin*	*Yang*	*Yin*
Wood	*jia* 甲	*yi* 乙	*yin* 寅	*mao* 卯
Fire	*bing* 丙	*ding* 丁	*wu* 午	*si* 巳
Earth	*wu* 戊	*ji* 己	*chen* 辰	*chou* 丑
			xu 戌	*wei* 未
Metal	*geng* 庚	*xin* 辛	*shen* 申	*you* 酉
Water	*ren* 壬	*gui* 癸	*zi* 子	*hai* 亥

Each of the *Yang* stems can combine with each of the *Yang* branches, and likewise each of the *Yin* stems can combine with each of the *Yin* branches. The total number of possible combinations is 60. This is the Chinese sexagenary system of naming the year, the month, the day, and the double-hours. The sexagenary cycle begins with *jiazi* and ends with *guihai*, which is followed immediately by *jiazi* in the next cycle. (See Table 2.2.)

Table 2.2

1 *jiazi*	11 *jiaxu*	21 *jiashen*	31 *jiawu*	41 *jiachen*	51 *jiayin*
2 *yichou*	12 *yihai*	22 *yiyou*	32 *yiwei*	42 *yisi*	52 *yimao*
3 *bingyin*	13 *bingzi*	23 *bingxu*	33 *bingshen*	43 *bingwu*	53 *bingchen*
4 *dingmao*	14 *dingchou*	24 *dinghai*	34 *dingyou*	44 *dingwei*	54 *dingsi*
5 *wuchen*	15 *wuyin*	25 *wuzi*	35 *wuxu*	45 *wushen*	55 *wuwu*
6 *jisi*	16 *jimao*	26 *jichou*	36 *jihai*	46 *jiyou*	56 *jiwei*
7 *gengwu*	17 *gengchen*	27 *gengyin*	37 *gengzi*	47 *gengxu*	57 *gengshen*
8 *xinwei*	18 *xinsi*	28 *xinmao*	38 *xinchou*	48 *xinhai*	58 *xinyou*
9 *renshen*	19 *renwu*	29 *renchen*	39 *renyin*	49 *renzi*	59 *renxu*
10 *guiyou*	20 *guiwei*	30 *guisi*	40 *guimao*	50 *guichou*	60 *guihai*

The five *xing* are associated with the seasons of the year. *Wood* is associated with spring; *Fire* with summer; *Earth* with the sixth lunar month, the period of transition from summer to autumn; *Metal* with autumn; and *Water* with winter. Each of the 10 stems goes through a cycle of 12 phases every year, as listed in Table 2.3.

Table 2.3

‘in the womb’ (*tai* 胎)
‘to be nourished’ (*yang* 養)
‘to be born’ (*sheng* 生) or ‘long life’ (*changsheng* 長生)
‘to be bathed’ (*muyu* 沐浴) or ‘to spoil’ (*bai* 敗)
‘to come of age’ (*guandai* 冠帶 or *guan* 冠)
‘to become an official’ (*guan* 官, *linguan* 臨官, *lu* 祿)
‘to flourish’ (*wang* 旺)
‘to decline’ (*shuai* 衰)
‘to become ill’ (*bing* 病)
‘to die’ (*si* 死)
‘to be buried’ (*zang* 葬) or ‘grave’ (*mu* 墓)
‘to receive breath’ (*shouqi* 受氣) or ‘extinction’ (*jue* 絕)

Table 2.4

	jia	yi	bing	ding	wu	ji	geng	xin	ren	gui
Be in womb	*you*	*shen*	*zi*	*hai*	*zi*	*hai*	*mao*	*yin*	*wu*	*si*
Be nourished	*xu*	*wei*	*chou*	*xu*	*chou*	*xu*	*chen*	*chou*	*wei*	*chen*
Be born	*hai*	*wu*	*yin*	*you*	*yin*	*you*	*si*	*zi*	*shen*	*mao*
Be bathed	*zi*	*si*	*mao*	*shen*	*mao*	*shen*	*wu*	*hai*	*you*	*yin*
Be of age	*chou*	*chen*	*chen*	*wei*	*chen*	*wei*	*wei*	*xu*	*xu*	*chou*
Be in office	*yin*	*mao*	*si*	*wu*	*si*	*wu*	*shen*	*you*	*hai*	*zi*
To flourish	*mao*	*yin*	*wu*	*si*	*wu*	*si*	*you*	*shen*	*zi*	*hai*
To decline	*chen*	*chou*	*wei*	*chen*	*wei*	*chen*	*xu*	*wei*	*chou*	*xu*
To be ill	*si*	*zi*	*shen*	*mao*	*shen*	*mao*	*hai*	*wu*	*yin*	*you*
To die	*wu*	*hai*	*you*	*yin*	*you*	*yin*	*zi*	*si*	*mao*	*shen*
To be buried	*wei*	*xu*	*xu*	*chou*	*xu*	*chou*	*chou*	*chen*	*chen*	*wei*
Be in extinction	*shen*	*you*	*hai*	*zi*	*hai*	*zi*	*yin*	*mao*	*si*	*wu*

Table 2.4 shows the phase of any particular stem in any particular month (represented by the branches) of the year.[8] Here the lunar months are denoted by the branches, beginning with *yin* for the first lunar month, *mao* for the second, *chen* for the third, and so forth. The ‘birth’ or ‘long life’ phase, the ‘becoming official’ phase and the ‘flourishing’ phase are significant in the three cosmic boards and important in the art of fate-calculations, particularly for the *Yang* stems. ‘To become ill’, ‘to die’, ‘to be buried’ and ‘extinction’ are significant phases where different interpretations are adopted between the three cosmic board systems and the art of fate-calculations. Also, in the art of fate-calculation, the phase ‘to be buried’ (*mu*) has special significance only where the *Yin* stems are concerned. The phases indicate the strength or weakness of the stems and whether they gain or lose support. While fate-calculations employed the cycle of 12 phases, which are reminiscent of the Buddhist Twelve *Nadāna*s (*shier yinyuan* 十二因緣), the 12 chains in the link of existence, the three cosmic boards use instead only five phases, namely *xiu* 休 (Rest), *wang* 旺 (Prosperity) or 王 (King),

xiang 相 (Accordance), *qiu* 囚 (Imprisonment) and *si* 死 (Death). The *Wuxing dayi* provides a list of the stems and branches under each phase in the seasons of the year.[9] From this list the following definitions can be derived:

Table 2.5

Prosperity	When the *xing* of the season is the same as that of the ordinal concerned.
Accordance	When the *xing* of the season produces the *xing* of the ordinal concerned.
Rest	When the *xing* of the season is produced by the *xing* of the ordinal concerned.
Imprisonment	When the *xing* of the season is subjugated by the *xing* of the ordinal concerned.
Death	When the *xing* of the season subjugates the *xing* of the ordinal concerned.

Without using the seasons, the branch of the month is taken into consideration in other cases. From the *Wubeizhi* 武備志 (Treatise on Armaments) the following slightly different definitions can be derived instead:[10]

Table 2.6

Prosperity	When the *xing* of the month produces the *xing* of the ordinal concerned.
Accordance	When the *xing* of the month is similar to that of the ordinal concerned.
Rest	When the *xing* of the month subjugates the *xing* of the ordinal concerned.
Imprisonment	When the *xing* of the month is subjugated by the *xing* of the ordinal concerned.
Death	When the *xing* of the ordinal concerned produces the *xing* of the month.

The divergence between the definitions one obtains by taking the season as the basis and those one obtains by taking the month as the basis, as shown in Tables 2.5 and 2.6, is noteworthy. Here is an example to illustrate the lack of consistency among the methods and different schools of thought in this area of study. Multiplicity and divergence provided flexibility in interpretations in the repertoire of a skilful diviner.

States of strength or weakness are also indicated by the way stems and branches are combined. For example, a branch cannot be very strong with only the support of a weak stem. Here the principles of mutual production and mutual conquest come into play. The *xing* to which the stems and branches belong are shown in Table 2.1. Combinations of two stems, combinations of a stem and a branch, while distinguishing between ordinals of the year, month, day and double-hour, and combinations of two and even

three branches play a major role in many forms of *shushu*. A typical example of a system employing a vast number of ordinal combinations, each with its own special term, is that of *zeri* 擇日 (day selection), a system that gives us a host of astrological terms in the Chinese almanac.[11] One ancient method assigned two *Yang*s or two *Yin*s to a stem and one *Yang* or one *Yin* each to a branch. Stem–branch combinations in Table 2.2 resulting in three *Yang*s were regarded as auspicious and three *Yin*s being otherwise. Astrological terms arising from combinations between stems and branches of the year, the month, the day and the time were given names of auspicious spirits (*shen* 神) or ominous spirits (*sha* 煞 or 殺). Some of these terms are common to the *Liuren* system as well as the two systems of fate-calculation, namely the *Ziping* method and the *Ziwei doushu* 紫微斗數 system of astrology referred to in Appendix II and Chapter 3 respectively.

Jiugong 九宮 magic square

The earliest known textual references on the magic square appeared in China in two different sources, one of which is a Confucian text and the other a mathematical writing. Recent archaeological excavations have recovered a divinatory board bearing the same magic square at Fuyang that dated back to Early Han, a couple of centuries earlier.[12] In the Mingtang 明堂 (Hall of Brightness) Chapter of Dai De's 戴德 *Da Dai Liji* 大戴禮記 (Record of Rites by the Elder Dai), a work dated approximately to the year AD 80, is an arrangement of the numbers 1 to 9 in sets of three as follows:[13]

2 9 4;   7 5 3;   6 1 8

The purpose of these numbers is not explained in the book, and has not been clearly understood. It is to be noted that these numbers were left out later by Dai Sheng 戴盛 in his abridgement of the *Liji* (Record of Rites), perhaps because the ritual based on these numbers was no longer performed by then, or the numbers had already lost their significance and were no longer understood by the Later Han period. It is only known that the Mingtang consisted of nine halls at which the Zhou emperors performed their ceremonial rites.

These nine numbers, in sets of threes, also appeared in a commentary of a mathematical text, the *Shushu jiyi* 數術記遺, said to be written in the year 190 BC by Xu Yue 徐岳.[14] Here the set of numbers is referred to as the '*jiugong* 九宮' (nine-palaces). Henceforth, until the twelfth century AD, the Chinese magic square of order 3 was known only as the nine-palaces (*jiugong*) or the nine-palaces diagram (*jiugongtu* 九宮圖). The *Shushu jiyi* also mentions an arrangement of numbers for calculation known as the 'nine-palaces calculation' (*jiugongsuan* 九宮算), but gives no details apart from indicating numbers that circulate round (within the nine-Palaces). This might also be a system of divination that used the *jiugong* magic

square, remembering that the traditional Chinese concept of mathematics made no distinction between divination and what is now known to us as mathematics. Unfortunately, as suggested by the title of this book, the method of 'nine-palaces calculation' was apparently already forgotten by the time of Xu Yue.

Two important figures or diagrams had dominated Chinese thought since ancient times. These were the *Hetu* 河圖 Diagram and the *Luoshu* 洛書 Chart. There are different theories about their origins; the most popular ones say that the legendary emperor Fuxi 伏羲 obtained the *Hetu* Diagram from a dragon-horse at the Yellow River. The legend continues to relate that, during the eleventh century BC, Wenwang 文王, father of the first Zhou emperor, received inspiration from this diagram and produced the eight Trigrams that he used in his method of divination.[15] Then Yu 禹, who later became the first king of the Xia dynasty – a dynasty which modern archaeologists are still trying to confirm – observed at the Luoshui River a tortoise carrying the *Luoshu* Chart on its back. The *Lunyu* 論語 (*Confucian Analects*) and the *Yijing* both mention the *Hetu* and the *Luoshu*. However, we have no evidence of the existence of any actual figures of the *Hetu* and *Luoshu* which would enable us to be certain that such a diagram or chart did exist at the time of Confucius. Considerable discussions took place in succeeding generations concerning the numbers in the *Hetu* and the *Luoshu* as well as their applications to astrology and divination. Then, in the tenth century, the famous Daoist Chen Tuan 陳搏 first pronounced that the *jiugongtu* was the *Hetu* Diagram. But his argument did not prevail for more than two centuries. During the twelfth century, Cai Yuanding 蔡元定 (1145–1198), a disciple of Zhu Xi 朱熹 (1130–1220), identified the Hall of Brightness and the nine-palace arrangement as the *Luoshu* Chart. Cai Yuanding had already established himself as a great geomancer of his time and, with the support of his teacher's (i.e. Zhu Xi) fame as a neo-Confucian scholar, his theory was raised beyond challenge. Henceforth, scholars have talked about the *Luoshu* magic square as synonymous with the *jiugong* diagram. Regardless of the name it is known by, modern scholars consider it as the earliest magic square known to the ancient world.

The *Luoshu* Chart and the *Hetu* Diagram, as they were known since the twelfth century, are shown in Figures 2.2 and 2.3. Figure 2.2 is essentially the same as the series of numbers in the Mingtang, but Figure 2.3 does not qualify as a modern magic square, and has been put aside by modern scholars studying Chinese magic squares.[16] This is rightly so if one takes the modern definition of magic squares. However, to the traditional Chinese mathematician, the two figures are of equal importance, both mystically and philosophically. Nevertheless, at this point we shall also leave the *Hetu* Diagram aside, since the three cosmic boards were mainly concerned with the *jiugong* or *Luoshu* magic square. In Figure 2.2 we can see that numbers are represented by little black and white circles, black circles for the odd or so-called heavenly or *Yang* numbers and white for the even or earthly

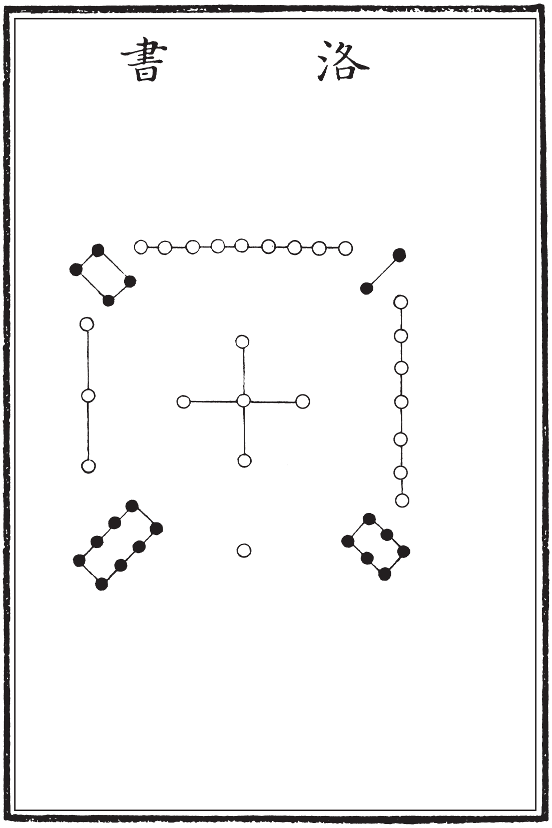


Figure 2.2 The *Luoshu* Chart, from *Tushu bian*, ch. 1; p.20a [*Qinding siku quanshu* edition].

Yin numbers. The numbers also represent the *wuxing*. These are shown in Table 2.7.

Table 2.7

Wuxing	*Heavenly numbers (*Yang*)*	*Earthly numbers (*Yin*)*
Water	1	6
Fire	2	7
Wood	3	8
Metal	4	9
Earth	5	(10)

Neo-Confucian philosophers saw great significance in the position placement of the number '5' at the centre of the *Luoshu* Chart. To them, '5' is the most important 'heavenly number', manifesting itself in the *wuxing*, in

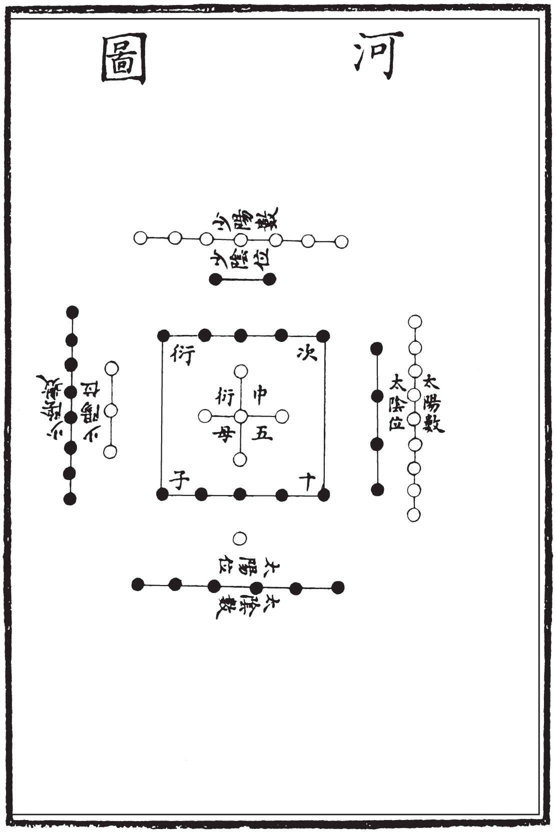


Figure 2.3 The *Hetu* Diagram, from *Tushu bian*, ch. 1, p.14a [*Qinding siku quanshu* edition].

the five virtues in ethics, in the five colours and the five tastes in human perceptions, in the five cereals that sustain human life, in the five human relationships that govern human behaviour, and so on. Beginning with the two numbers 1 and 6, which represent *Water*, and moving anticlockwise, we come across the two numbers 7 and 2, which represent *Fire* and are conquered by *Water*. Moving again anticlockwise, we find that *Fire*, represented by 7 and 2, conquers *Metal*, represented by the numbers 4 and 9. Then 4 and 9 conquer 3 and 8 which represent *Wood*. *Wood* then conquers *Earth* at the centre represented by the number 5. The number 5, representing *Earth*, then conquers the numbers 1 and 6, representing *Water* again. Here, the Chinese found a powerful symbolism both to represent and to 'prove' the Principle of Mutual Conquest as applied to their *wuxing* theory.

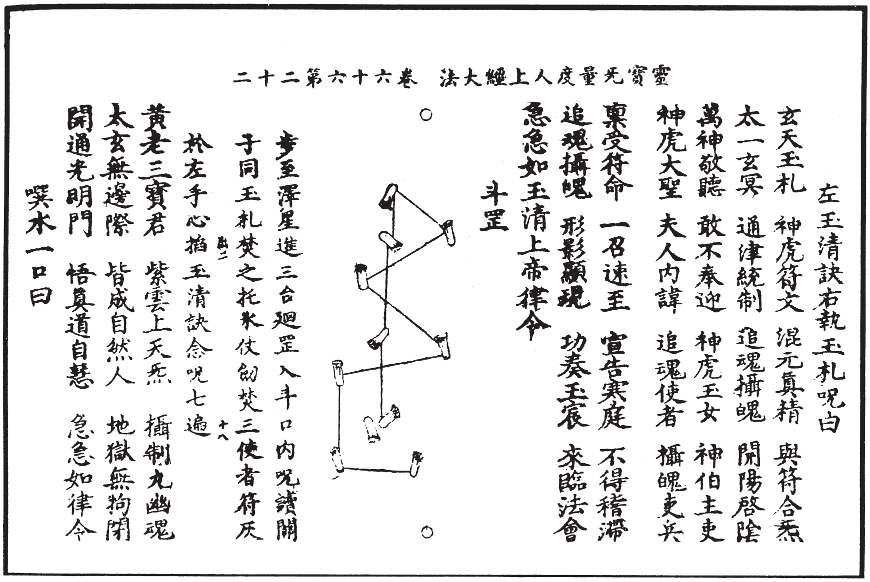
One cannot fail to notice the role played by numerology in ancient China. Indeed, one can see that numerology had a more profound as well as a more lasting effect on Chinese thought than it had on the Pythagorean

school in ancient Greece and in Western thought in general. The occurrence of certain numbers, e.g. 5, 9, 25, 49, 50 and 64, in Chinese magic squares is a case in point. In the *jiugong* magic square we have already come across the number 5. The number 9 is the supreme heavenly number, while the number 5 is the supreme earthly number.[17] In fact, the numbers 9 and 5 referred to the emperor, the one who occupied the most exalted position. The number 25 is the sum of all the heavenly and earthly numbers, from 1 to 9. Forty-nine stalks of milfoil used for divination in the *Yijing* system gave importance to the number 49. Also of significance are the numbers 50 of *dayan* 大衍 (Great Extension) and 64, which comes from the number of hexagrams in the *Yijing*. Numerology is intertwined with the principles of *Yin* and *Yang* and the *wuxing* to form a universal set of explanations which the Chinese, particularly the Song neo-Confucian philosophers, applied to natural phenomena, ethics, human relationships and, indeed, almost everything under the sun.

Magic in the magic square

As mentioned earlier in the previous chapter, J. G. Frazer, the Cambridge anthropologist of *Golden Bough* fame, had stated two general laws on magic.[18] For the ancient magician there was a law of similarity, of like producing like, and there was one of contiguity or contagion, according to which things which have been in contact, but which are no longer, continue to act upon one another. The first law is eminently applicable to the *jiugong* magic square. Let us take the interesting example of a sequence of steps in Daoist liturgy known as the *Yubu* 禹步 or *bugang* 步罡, already in use by the shamans during the time of the Warring States, although the steps made then are not exactly known.[19] There are several studies of the Daoist *Bugang* practices.[20]

The most important constellation in the heavens to the Daoist is the Plough (or Dipper). The stars in this constellation, known to the Chinese as Beidou 北斗, have all along been worshipped with great reverence by the Daoist. In Chinese astronomy the Beidou consists of only seven stars, but to the Daoist there are nine stars, two of which are said to be invisible. According to an old Star Manual, *Xingjing* 星經, Beidou originally consisted of nine stars but two of them had already gone out of sight. If the 'handle' of the Plough is extended downwards it would meet or get quite near to some stars in the constellation Bootes. Among them is γ Bootis, which was the star Zhaoyao 招搖 to the ancient Chinese. This star played an important role in the ceremonies of the ancient Chinese. If one speculates that this was one of the nine stars seen in ancient China to belong to the Plough, then it had already left the circle of perpetual visibility around the year 1500 BC due to the precession of the equinoxes. This would also prove the antiquity of Chinese astronomy beyond the year 1500 BC. Perhaps we can find another explanation of the nine stars by taking a parallel in Greek



靈寶无量度人上經大法 卷六十六 第二十二

左玉清訣右執玉札呪曰

玄天玉札 神虎符文 混元真精 與符合炁
太一玄冥 通津統制 追魂攝魄 開陽啓陰
萬神敬聽 敢不奉迎 神虎玉女 神伯主吏
神虎大聖 夫人內諱 追魂使者 攝魄吏兵
稟受符命 一召速至 宣告寒庭 不得稽滯
追魂攝魄 形影顯現 功奏玉宸 來臨法會
急急如玉清上帝律令

斗罡

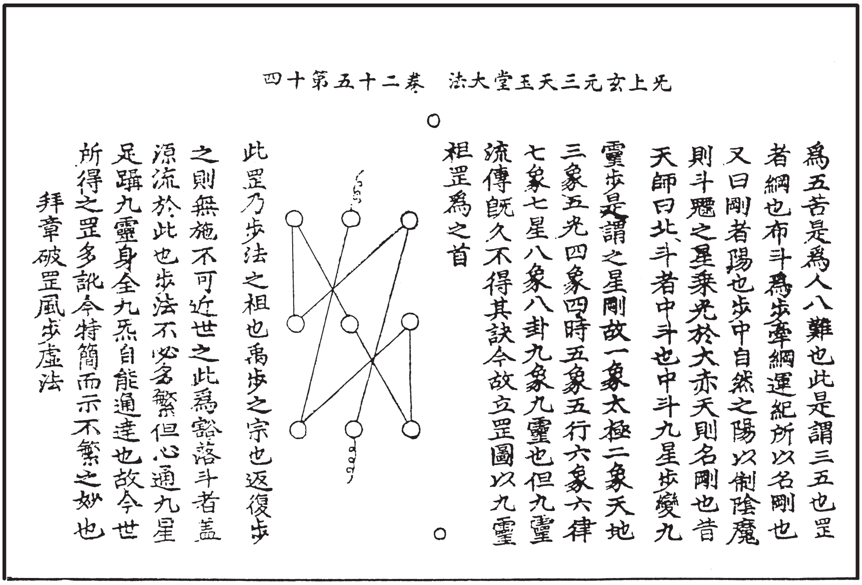
步至澤星進三台廻罡入斗口內呪讀開
子同玉札焚之托米仗劍焚三使者符厭
於左手心掐玉清訣念呪七遍
黃老三寶君 紫雲上天炁 攝制九幽魂
太玄無邊際 皆成自然人 地獄無拘閉
開通光明門 悟真道自慧 急急如律令
噀水一口曰

Figure 2.4a Yubu steps following the Plough [*Zhengtong Daozang* edition].

numerology. The Pythagorean Philolaus invented a ‘counter earth’ to make up ten heavenly bodies to match the perfect number 10. Could it be that the ancient Chinese also created two invisible stars of the Plough to make up their supreme heavenly number 9? Of course, neither of these two speculations can be taken as conclusive evidence.

In Daoist ceremonies the priest moves his feet following the pattern of the ‘nine stars’ of the Plough, as shown in Figure 2.4a. This is called *Yubu* or *bugang*. By tracing the pattern of the Plough, the performer of the rites tries to invoke the celestial power of the nine stars. This exemplifies like producing like, Frazer’s first law in action. Now the Spirits of the nine stars of Beidou are also thought to reside within the *jiugong* nine-palaces. This gave rise to another, and perhaps more powerful, *Yubu* or *bugang* variation by using the *jiugong*, in which the practitioner steps from 1 to 2, then to 3, and so forth until he reaches the number 9, or conversely starting from 9, and moves successively to 8, 7, 6, 5, 4, 3, 2 and 1. An illustration from a Daoist text is given in Figure 2.4b. By imitating the pattern of the Beidou stars in the *jiugong* diagram, the Daoist thought that he could invoke not only spiritual power from the Plough, but also the force of nature embodied in the principles of *Yin* and *Yang* and the *wuxing*, represented in the *Luoshu* Chart.

The *jiugong* magic square has played an important role in Chinese astrology and divination. It was used in two of the three cosmic board systems, namely the system of *Taiyi* and that of *Dunjia*. The *jiugong* magic square


无上玄元三天玉堂大法　卷二十五第十四

為五苦是為人八難也此是謂三五也罡
者綱也布斗為步牽綱運紀所以名剛也
又曰剛者陽也步中自然之陽以制陰魔
則斗罡之星乘光於大赤天則名剛也昔
天師曰北斗者中斗也中斗九星步變九
靈步是謂之星剛故一象太極二象天地
三象五光四象四時五象五行六象六律
七象七星八象八卦九象九靈也但九靈
流傳既久不得其訣今故立罡圖以九靈
相罡為之首

此罡乃步法之祖也禹步之宗也返復步
之則無施不可近世之此為谿落斗者蓋
源流於此也步法不必多繁但心通九星
足躡九靈身全九炁自能通達也故今世
所得之罡多訛今特簡而示不繁之妙也
拜章破罡風步虛法

Figure 2.4b Yubu steps following the *jiugong* magic square [*Zhengtong Daozang* edition].

was also employed in the Astronomical Bureau for astrological purposes in the art of *zeri* (day selection). In all these techniques it is essential to understand the basic principle of movement within the nine palaces, known to the practitioners of the art as *feigong* 飛宮, literally 'flying across the palaces'. This could be either in a clockwise direction (*shunfei* 順飛) or in an anticlockwise direction (*nifei* 逆飛). In the former, the number 1 is added to each of the nine cells, remembering that 9 becomes 1 when 1 is added to it. Repeating the process, the original *jiugong* diagram produces eight other diagrams, making a total of nine as shown in Figure 2.5. The same diagrams can also be produced in a different sequence by subtracting 1 from each of the nine cells in the *jiugong* magic square, remembering that subtracting 1 from cell One makes cell Nine. The movement is in an anticlockwise direction. Colours are assigned to the nine numbers in the cells, namely: 1 = white, 2 = black, 3 = blue-green, 4 = green, 5 = yellow, 6 = white, 7 = red, 8 = white, 9 = purple.[21] The *jiugong* diagram with its colours, aptly referred to in Smith (1991) as a colour-coded diagram, is shown in Figure 2.6.

The nine diagrams in Figure 2.5 are named according to the number and colour of their central cells. Thus the *jiugong* magic square is simply called '5 yellow' and the other eight diagrams in a clockwise direction are called '6 white', '7 red', '8 white', '9 purple', '1 white', '2 black', '3 blue-green', and '4 green' respectively. This is the Chinese astrologer's system of *zibai*

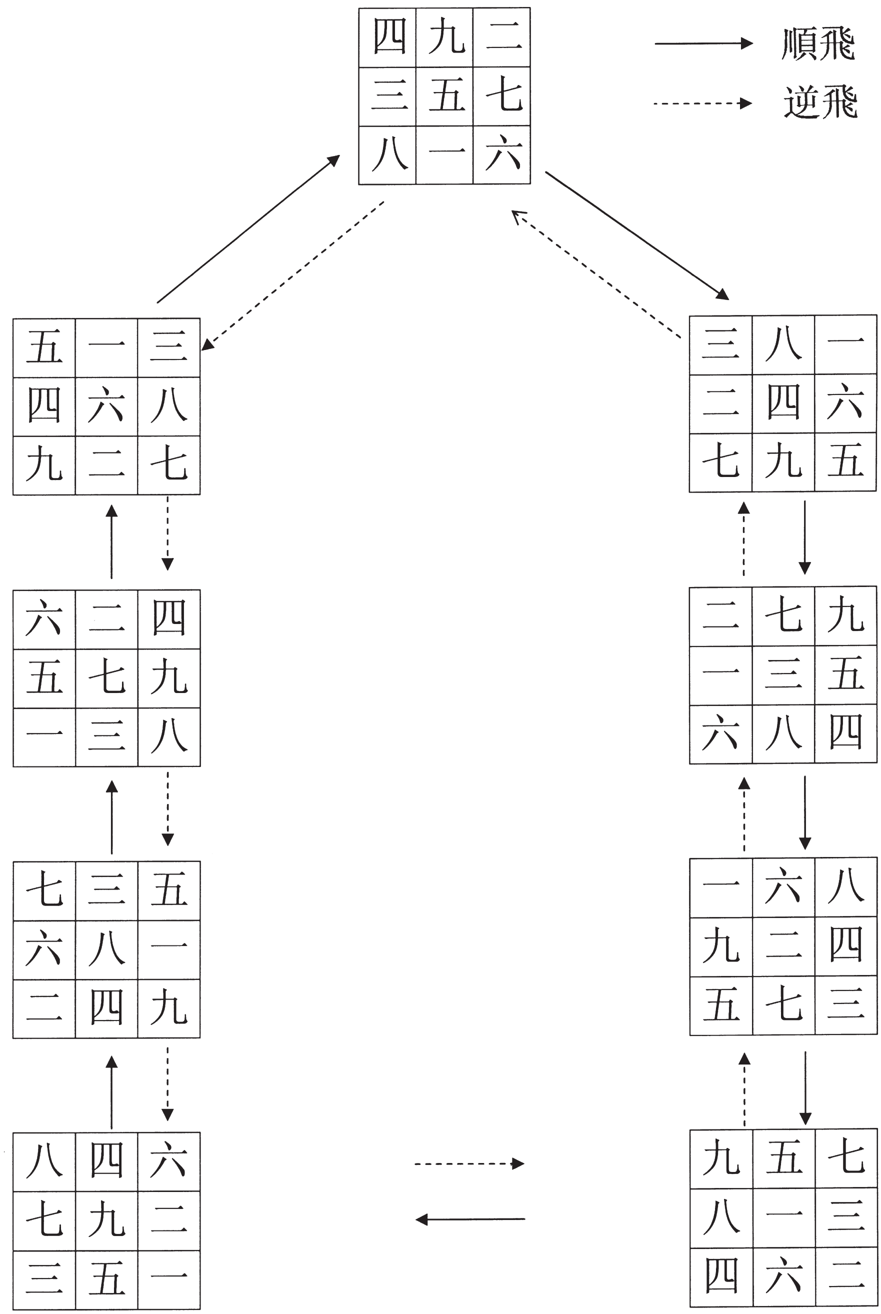


Figure 2.5 *Feigong* variations in the *jiugong* magic square.

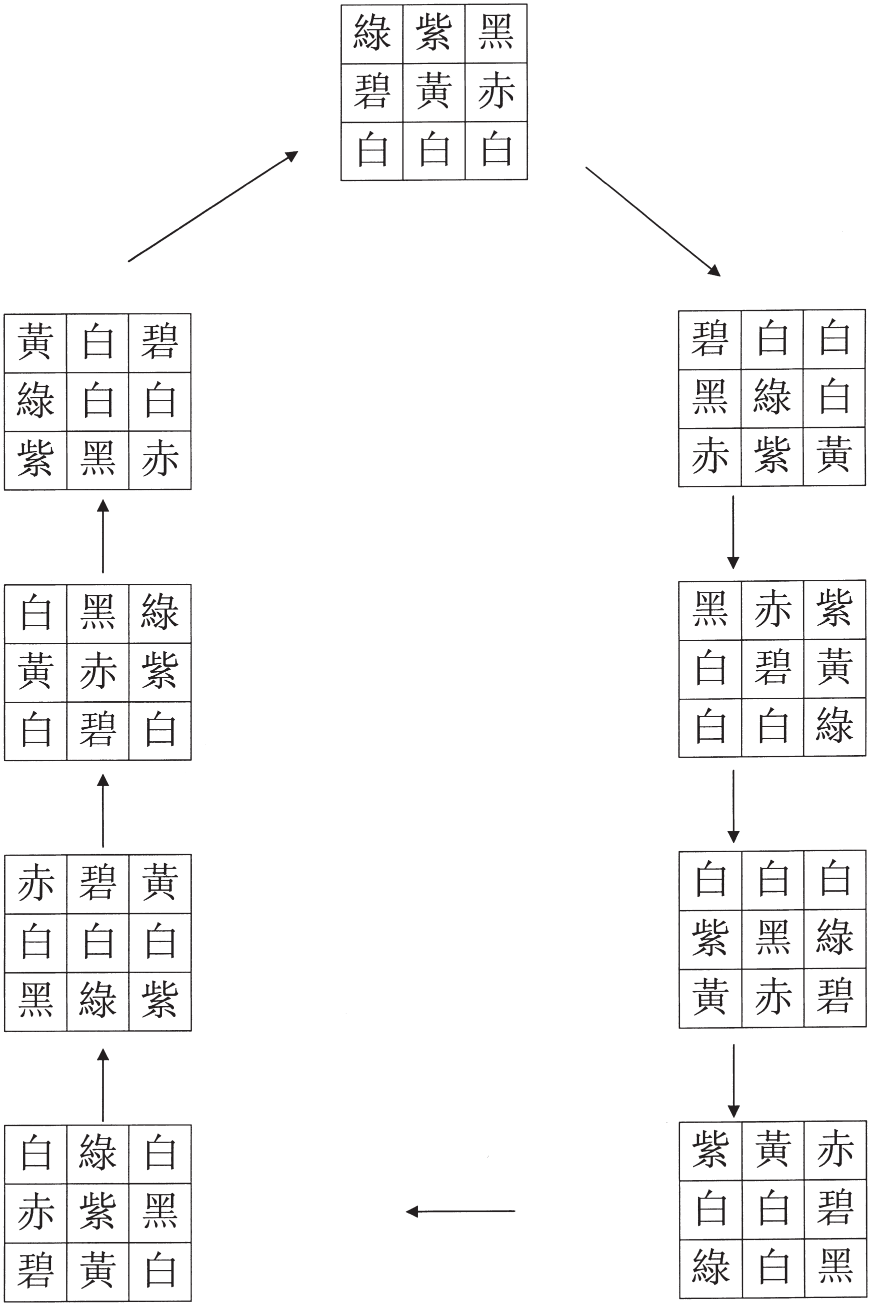


Figure 2.6 *Feigong* variations and 'colour-coded' (*zibai*) diagrams.



Figure 2.7 Zibai diagram for 1985 in a Chinese calendar.

紫白 (purple-and-white). In the diagram shown in Smith (1991), the so-called colour-coded diagram in the centre is a representation of the year *xinhai* in the *zibai* system, known as a '8 white'.[22] The diagram at the bottom right-hand corner on the next page is the *zibai* representation, i.e. '4 green', for the second lunar month. Figure 2.7 shows a '6 white' year, an *yihai* year in the Chinese luni-solar calendar for the year 1985, and Figure 2.8 shows another '6 white' year, this time a *bingchen* year in the Japanese luni-solar calendar for the year 1976. A difference of nine years between

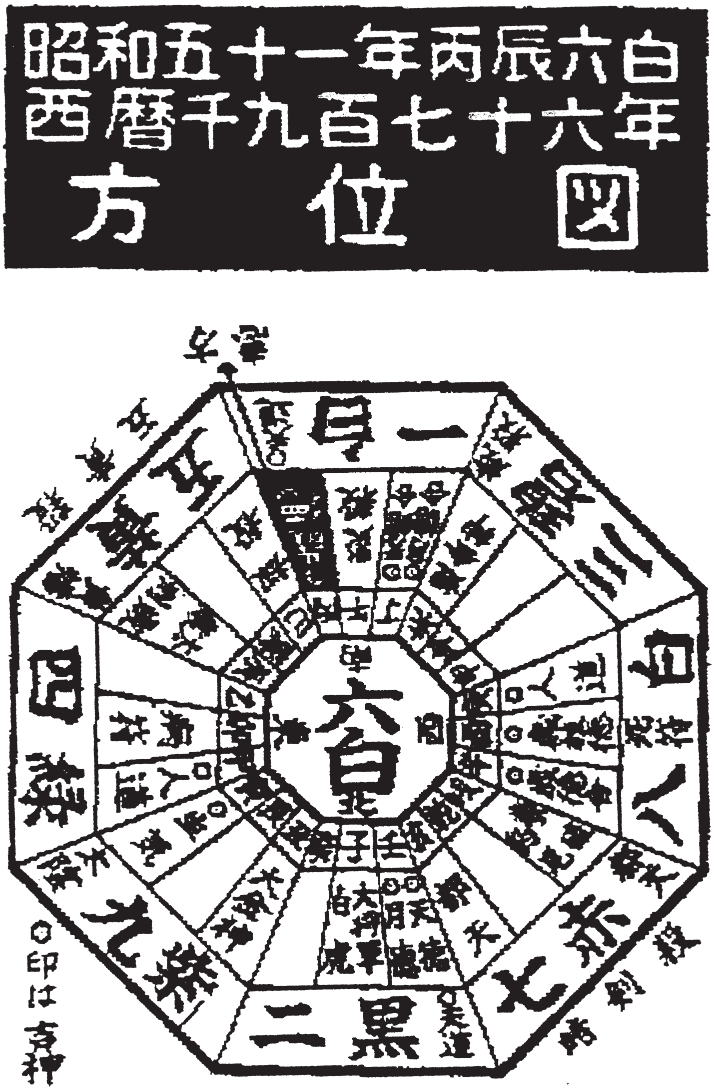


Figure 2.8 Zibai diagram for 1976 in a calendar from a Japanese shrine.

the two indicates that the same *zibai* system is used today both among Chinese and Japanese communities.[23] Generally speaking, 'white' was the auspicious colour. Chinese astrologers used this system to work out days and time, auspicious or otherwise, but the positions of the Eight Gates (*bamen* 八門) are important, as are the combinations of stems and branches.[24] Chinese astrologers used this system to work out lucky and unlucky moments for certain events in private and social life, for example having a bath or a haircut, meeting a friend, doing a business transaction, moving house, getting married, and so forth. This system has outwardly been frowned upon, as it has been dismissed as superstitious by some, and has escaped the careful attention of modern scholars until quite recently. For the purpose of understanding the three cosmic boards, more specifically the *Qimen Dunjia* system, knowing the process of *feigong* – flying across the palaces in the magic square – is essential.

The calendar

It is common knowledge that the Chinese employed a luni-solar calendar, which is far more complicated than the Gregorian calendar we use. One year in the Chinese calendar consisted of 12 lunar months. In every three or four years there is an additional month known as the intercalary month. A month is either of 29 or 30 days, and is not fixed. Calendar systems also changed from time to time. There were no less than one hundred different systems in use in the course of Chinese history. Moreover, some regions did not always adopt the official calendar. For example, the calendars used in Dunhuang at certain periods were not the contemporary Chinese official calendars. The Chinese used sexagenary cycles to denote the year, the month, the day and the time of the day. These cycles are of immense help in Chinese chronology, and Sinologists have conversion tables to help them convert Chinese dates to Western equivalents. Problems still remain, however, as for example in the case of Dunhuang chronology when the official calendars were not followed.

Now in Chinese astrology, the year, month and day are each denoted by a number and its colour according to the *zibai* system, thus providing us with a clockwise 9-year cycle, an anticlockwise 9-month cycle and a clockwise 9-day cycle. For example, the year 1997 corresponds to the *wuyin* Chinese luni-solar year and to the '3 blue-green' year of the astrologer. Then there is also a 12-day *jianchu* 建除, lucky-and-unlucky day cycle that restarts on encountering any of the 12 *jieqi* 節氣 in the 24 fortnightly periods. There was more than one system on the use of the *jianchu* cycle and members of the cycle were also known by different names. The most common names seem to be *jian* 建 (establishment), *chu* 除 (removal), *man* 滿 (full), *ping* 平 (level), *ding* 定 (steady), *zhi* 執 (hold), *po* 破 (broken), *wei* 危 (lofty), *cheng* 成 (success), *shou* 收 (receive), *kai* 開 (open) and *bi* 閉 (shut). These names are still employed in modern traditional Chinese almanacs.

Using the *zibai* cycle of 9 days, months and year and the *jianchu* cycle of 12 days in addition to the sexagenary cycles for the year, month and day, Huang Yi-Long has demonstrated that the Dunhuang calendars can be reconstructed and that there are errors in the chronology tables used to convert historical Chinese dates to Western.[25]

Ancient Chinese calendar-makers employed a Superior Epoch (*shangyuan* 上元), the time in ancient past when the Five Planets together with the sun and the moon were supposed to be in conjunction at midnight, and when the year, the lunar month, the day and the time began with the same sexagenary cyclic term *jiazi*. Liu Xin 劉歆 (50 BC–AD 22) in making the *Santongli* 三統曆 calendar took one epoch (*yuan* 元) to be three sequences (*Santong* 三統), from which came the name of the calendar. One sequence (*tong* 統) was taken as 81 Metonic Cycles of 235 lunations in 19 years (*zhang* 章), giving 4,617 years to an epoch.[26] Intercalations and eclipses during the Spring-and-Autumn period, i.e. between the years 722 BC and 475 BC, were studied separately by Shinsei Shinzō 新城新藏, Wang Tao 王韜 and others.[27] It was found that up to the reign of Lu Xuangong 魯宣公 (reigned 608–591 BC), intercalation varied between six and eight in every 19 years, but as from the year 589 BC it remained constant at seven intercalations in every 19 years, or $(19 \times 12) + 7 = 235$ lunations in 19 years. The *Sifenli* 四分曆 (Quarterly Remainder Calendar), using a tropical year of $365\frac{1}{4}$ days and 235 lunations in 19 years, came into use in the fifth century BC. Liu Xin then took a period of 138,240 years for the conjunction of the five planets and derived the Superior Epoch (*shangyuan*) of 23,639,040 years as the least common multiple of the epoch and his period of conjunction. Subsequent calendar-makers for the next 1,200 years all followed him to calculate a Superior Epoch. None of them, however, had left any record of the method they used to work out the period of conjunction for the planets. It was left to the Song mathematician Qin Jiushao 秦九韶 (c.1202–c.1261) to figure out that the method used was similar to the Remainder Theorem problem given in the *Sunzi suanjing*. In any case, we do not have records to inform us how the ancient Chinese calendar-makers worked out periods of conjunction of the planets.

In actual practice, any attempt to find a common multiple for the lunar and planetary cycles would be a matter of great complexity. These cycles expressed in units of the earth's rotation about its own axis, or revolution round the sun, would give numbers that are incommensurable. As Joseph Needham puts it, 'The whole history of calendar making (in China) therefore, is that of successive attempts to reconcile the irreconcilable.'[28] Modern scholars have expressed doubts on whether the Chinese calendar-makers had ever used the periods of all the planets at all in their calculations to obtain the interval of the Superior Epoch. Recently, Qu Anjing 曲安京 has even shown that, in the calendar systems he investigated, he could find no sign of any planetary period being ever used.[29] Nevertheless, Chinese calendar-makers had somehow produced intervals of the Superior Epoch with a

wide range of values. Superior Epochs for some of the more prominent calendars are given in Table 2.8.[30] The cumbersome procedure of finding an ancient Superior Epoch for calendar-making was eventually dispensed with in Guo Shoujing's 郭守敬 (1231–1316) *Shoushili* 授時曆 calendar, the most advanced calendar ever produced in traditional China.[31] We shall encounter the Superior Epoch in the *Taiyi* method.

Table 2.8

Name of calendar	*Calendar-maker*	*Year from Superior Epoch*	*Interval from Superior Epoch*
Santongli 三統曆	Liu Xin 劉歆	104 BC	143,127 years
Yongheli 永和曆	Wang Shuozhi 王朔之	AD 352	97,000 years
Damingli 大明曆	Zu Chongzhi 祖沖之	463	2,626,560 years
Tianheli 天和曆	Zhan Luan 甄鸞	566	875,792 years
Wuyinli 戊寅曆	Fu Renjun 傅仁均	626	164,348 years
Lindeli 麟德曆	Li Chunfeng 李淳風	664	269,850 years
Shenlongli 神龍曆	Nangong Yue 南宮說	705	414,360 years
Dayanli 大衍曆	Yixing 一行	724	96,961,740 years

Another characteristic of the traditional Chinese calendar is the naming of the year. Early Chinese kings or emperors named the years after their own reigns, and so did the first few emperors of the Zhou dynasty. By the time of the Spring-and-Autumn period, the influence of the feudal princes increased as the power of the monarchy declined. Each feudal prince used a calendar named after his own reign within his own state. The *Zuozhuan* 左傳 and the *Guoyu* 國語, for example, adopt the calendar of the State of Lu. There was a need of some uniformity with so many different calendars in operation at the same period. Noticing Jupiter to return to the same spot in the heavens in about 12 years, 12 zones were marked along the equator, such that Jupiter would travel within one zone in 1 year and move over to the next in the following year and that winter solstice would lie at the centre of the first zone. The first zone was called *Xingji* 星紀, followed in the west to east direction by *Xuanxiao* 玄枵, *Zouzi* 娵訾, *Jianglou* 降婁, *Daliang* 大梁, *Shichen* 實沈, *Chunshou* 鶉首, *Chunhuo* 鶉火, *Chunwei* 鶉尾, *Shouxing* 壽星, *Dahuo* 大火 and *Ximu* 析木. These were the 12 Jupiter-stations (*shier ci* 十二次). Chinese astronomers in the Warring States period had already observed that the movement of Jupiter was not regular, sometimes progressing, sometimes stationary and sometimes retrograding. Probably this gave rise to the need to invent an imaginary Counter-Jupiter that moved uniformly in the opposite direction from east to west. When Jupiter was at *Xingji* Counter-Jupiter would be at *yin* 寅, when Jupiter moved to *Xuanxiao* the next year Counter-Jupiter would be in *mao* 卯, and so on. Hence, instead of indicating a year by the position of Jupiter at the relevant

Jupiter-station, it was also possible and, in fact, more convenient to denote a year by the position of Counter-Jupiter upon the branches. This was called *Taisui jinian* 太歲紀年 (Chronology Employing the Cycle of Counter-Jupiter).

Taisui jinian used the branch to denote the year. It was often used together with *Suijun jinian* 歲君紀年, which used the stem to denote the year. Ancient nomenclatures of the branches and the stems have in recent time become an unsolved puzzle to some historians of Chinese astronomy. When Counter-Jupiter was at the *yin* branch it was named *Shetige* 攝提格 and at each different branch it was given a different name. These names became synonymous with the names of the branches, i.e. *zi* corresponding to *Kundun* 困敦, *chou* to *Chifenruo* 赤奮若, *yin* to *Shetige*, *mao* to *Shane* 單閼, *chen* to *Zhixu* 執徐, *si* to *Dahuangluo* 大荒落, *wu* to *Dunzang* 敦牂, *wei* to *Xiexia* 協洽, *shen* to *Tuantan* 涒灘, *you* to *Zuoe* 作鄂, *xu* to *Yanmao* 閹茂 and *hai* to *Dayuanxian* 大淵獻. These terms were already explained in the sixth century by Xiao Ji in his *Wuxing dayi*, which also took into account earlier explanations in the earlier *Huainanzi* and *Erya*.[32] Nonetheless they sound strange or non-Han to some modern Chinese ears, but no foreign languages approximating to the sounds of these terms have been found. One suggestion is that they came from the language of some Chinese Minorities. The eminent astronomer and geographer Luoxia Hong 落下閎 (fl. second and first century BC), for example, is cited as coming from the Minorities tribes and not the majority Han. There was a similar set of rather strange names for the stems. As if to further complicate matters, but perhaps for the purpose of avoiding confusion over the years and the months, another set of names for the branches was used to denote the months.

Due to the precession of the equinoxes and the sidereal period of Jupiter being 11.86 rather than exactly 12 years, Jupiter would move gradually closer towards the next Jupiter-station after each year. After 84.7 years it would be found in the next station. This is what astronomers observing the movement of Jupiter referred to as '*Taisui chao chen* 太歲超辰' (Counter-Jupiter bypassing a branch). Jupiter-stations had long ceased to be used in the Chinese calendar. As is mentioned in Chapter 5, Shen Gua had already remarked on their being out of step with the calendar in the eleventh century. However, being an imaginary heavenly body, no observation was needed or could be made on the movement of Counter-Jupiter and it was not even necessary to know the actual position of Jupiter. The Chinese lunar calendar today still retains the system of *Taisui jinian*. Counter-Jupiter will feature prominently in Chapter 5 on the *Liuren* method, although it has a presence in the other two systems as well.

The system of the *Yijing*

Much has been written on this intriguing subject that had engaged the attention of traditional scholars for well over 2,000 years and that still

attracts the interest of modern scholars. The only purpose in describing it here is to provide the bare essentials for an understanding of the three cosmic boards. Therefore due precaution needs to be taken not to be side-tracked into this fascinating subject. It suffices to add that accounts of the system accompanied with excellent bibliographies can be found, for example, in Needham (1956) and Smith (1991). For a brief account of divination using the *Yijing* system see, for example, Ho Peng Yoke (1991d).[33] We shall not concern ourselves here with the myriad schools of interpretations in the past nor with the discovery of the ancient order of the Hexagrams in modern archaeological excavation as they play no part in the understanding of the three cosmic boards.

In the *Yijing*, the *Taiji* 太極 (Supreme Pole or Supreme Ultimate) gives rise to the two cosmological forces (*er yi* 二儀) *Yin* and *Yang*.[34] *Yin* is represented by a broken line symbol and *Yang* by an unbroken line. Combinations of *Yin* and *Yang* produce the Four Symbols (*si xiang* 四象): *Tai Yin* 太陰 with two *Yin* lines, *Shao Yang* 少陽 with a *Yang* line above a *Yin* line, *Shao Yin* 少陰 with a *Yin* line above a *Yang* line, and *Tai Yang* 太陽 with two *Yang* lines. A further combination of *Yin* and *Yang* with each of the Four Symbols resulted in the Eight Trigrams (*ba gua* 八卦) *qian* 乾, *kun* 坤, *zhen* 震, *xun* 巽, *kan* 坎, *li* 離, *gen* 艮 and *dui* 兑 (see Figure 2.9, the Eight Trigrams). Combinations of the Trigrams produced the Sixty-Four Hexagrams. For a long time, two different orders of arrangement of the *gua*, both Trigrams and Hexagrams, were talked about. One was the *houtian* 後天 (Later Heavens) order attributed to Wenwang 文王, father of the first emperor of the Zhou Dynasty in the eleventh century BC. The other was the *xiantian* 先天 (Prior to Heavens) order attributed to the legendary emperor

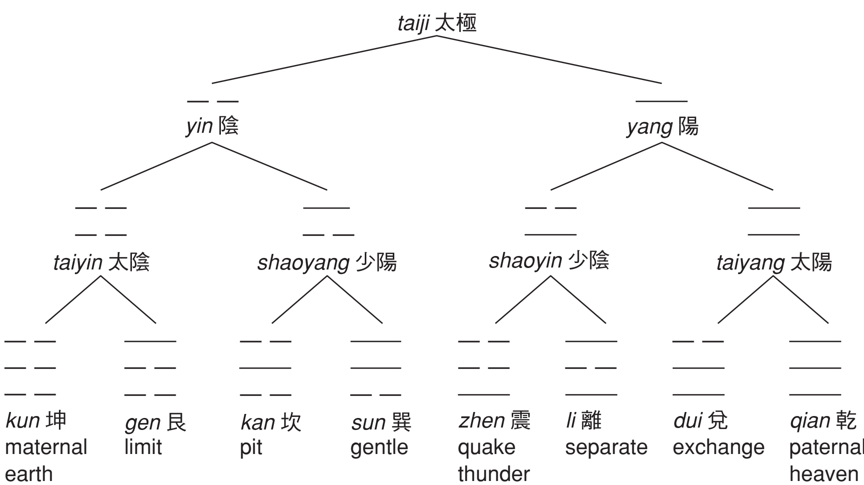


Figure 2.9 The *yijing* Trigrams.

Fuxi 伏羲, although no earlier reference to it can be found before the time of Shao Yong 邵雍 (1011–1077). Even the *houtian* order attributed to Wenwang may not be that ancient because of its divergence from the arrangement of the text excavated from Mawangdui in the second half of the twentieth century. Much has been told regarding the connection of the *xiantian* order with the binary system of Leibniz. But the three cosmic boards were more concerned with the *houtian* system. Neither the binary arrangement in the *xiantian* order nor the Mawangdui arrangement plays a part at this stage. One needs only to refer to the diagrams in Needham (1956) that show the arrangement of the Hexagrams in the *houtian* order, as well as to Table 2.9 that indicates the connection between the Trigrams, *Yin* and *Yang*, the *wuxing* and the points of the compass. It is important to note the traditional Chinese convention of orienting the compass with S on top, W to the right, N at the bottom and E on the left, turned 180 degrees from our modern convention.[35] This orientation was already pointed out in our discussion on the *zibai* or so-called colour-coded calendar.

Table 2.9

qian	*Yang*	*Metal*	*NW*
kun	*Yin*	*Earth*	*SW*
zhen	*Yang*	*Wood*	*E*
kan	*Yang*	*Water*	*N*
gen	*Yang*	*Wood*	*NE*
xun	*Yin*	*Wood*	*SE*
li	*Yin*	*Earth*	*S*
dui	*Yin*	*Water* and *Metal*	*W*

Chinese astronomy and astrology

As in early Greek civilization, Chinese astronomy included a strong element of astrology but, unlike its Greek counterpart, Chinese astrology had a profound bias towards the ruling class. Some knowledge of Chinese astronomy may be helpful to the understanding of the three cosmic board systems. For the convenience of the reader, a brief account of Chinese astronomy is given in Appendix I. One of the most elaborate systems developed to read the fate and destiny of the individuals was the *Ziping* 子平 method of fate-calculation. This was the indigenous system in contrast to another that came about through Hellenistic, Hindu and Iranian influences. The latter is taken account of in Chapter 3. Readers who wish to make reference to the indigenous system may find Appendix II useful.

3

THE *TAIYI* SYSTEM IN THE THREE COSMIC BOARDS

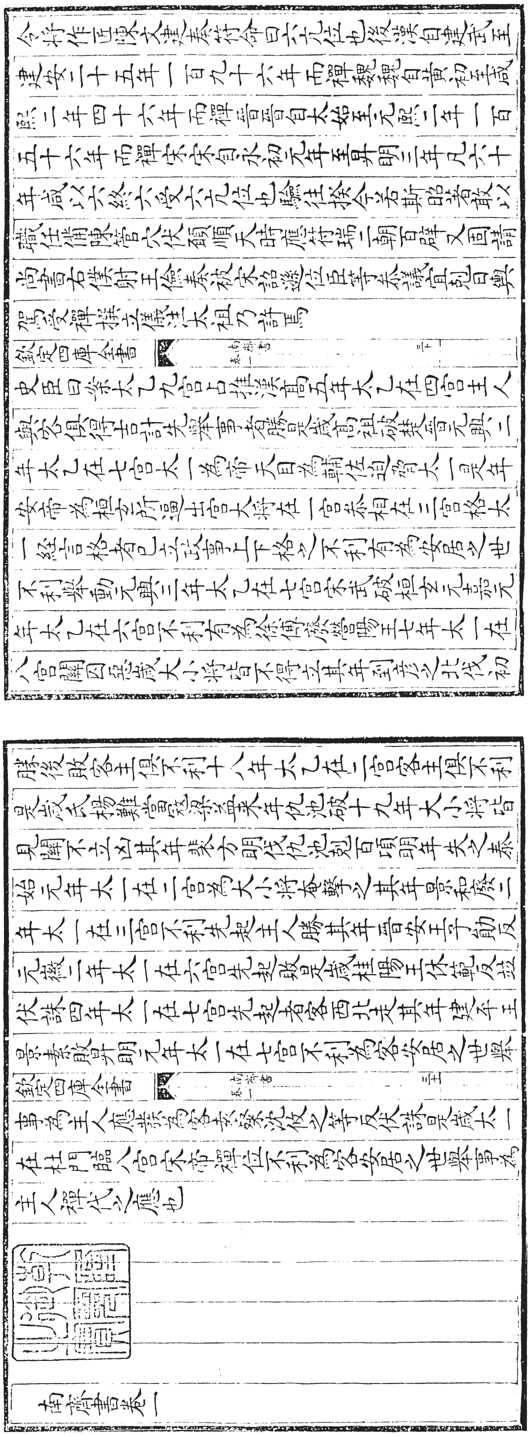
Method of the *Taiyi* deity

'Method of the *Taiyi* Deity' may not be the most appropriate translation for the term '*Taiyi* system' but it does seem to convey the way in which it was interpreted in traditional China where the vast majority of people knew it only by name. This was a method of divination practised in secrecy for a few centuries before we first came across a mention of it in texts in one of the earlier Official Chinese Histories and more recently in late fourth-century BC mss recovered from excavations.[1] The earliest account of the system, however, is to be found in one of the former. It is convenient to take this official record as our starting point.

The Historiographer's 'Remarks' in the chronicle of Emperor Gaodi in *Nan Qi shu*

The first official adoption of the *Taiyi* 太乙 method of divination and its inclusion within the three cosmic board systems (*sanshi* 三式) in the Astronomical Bureau came in the time of Tang (618–907).[2] The methods reached their golden age in Northern Song (960–1127) under the patronage of the emperor Renzong 仁宗. However, although the earliest monograph on the *Taiyi* method still available to us is dated back to the time of the Tang, the method itself can be deduced from a seemingly incomprehensible document written several centuries earlier. This is a passage from the *Nan Qi shu* 南齊書 (Official History of the Southern Qi Dynasty) that Yan Dunjie pointed out in the 1980s to be referring to the *Taiyi* method of divination[3] (see Figure 3.1). Yan's discovery was later followed by a full-scale study and analysis of the text and the *Taiyi* method.[4] A translation of the passage concerned is given below.

> Your (Majesty's) servant (Xiao Zixian 蕭子顯), the historiographer, submits (the following remarks) based on the prognostications of *Taiyi* (moving within the) Nine Palaces (*jiugong* 九宮):



令將作匠陳文建奏符命曰六九位也後漢自建武至
建安二十五年一百九十六年而禪魏魏自黃初至咸
熙二年四十六年而禪晉晉自太始至元熙二年一百
五十六年而禪宋宋自永初元年至昇明三年凡六十
年咸以六終六受六九位也驗往揆今若斯昭著敢以
職任備陳管穴伏願順天時應符瑞二朝百辟又固請
尚書右僕射王儉奏稱宋帝詔遜位臣等參議宜剋日輿
駕受禪奏上儀注太祖乃許焉

欽定四庫全書　南齊書 卷一　三十

史臣曰案太乙九宮占推漢高五年太乙在四宮主人
與客俱得吉計先舉事者勝是歲高祖破楚垓下元興二
年太乙在七宮太一為帝天目為輔佐迫脅太一是年
安帝為桓玄所逼出宮大將在一宮參將在二宮格太
一經言格者已立政事上下格之不利有為安居之世
不利舉動元興三年太乙在七宮宋武破桓玄元嘉元
年太乙在六宮不利有為徐傅廢營陽王七年太一在
八宮關囚至恐歲大小將皆不得立其年到彥之北伐初

勝後敗客主俱不利十八年太乙在二宮客主俱不利
是歲氐楊難當寇梁益來年仇池破十九年大小將皆
見關不立凶其年裴方明伐仇池剋百頃明年失之泰
始元年太一在二宮為大小將奄擊之其年景和廢二
年太一在三宮不利先起主人勝其年晉安王子勛反
元徽二年太一在六宮先起敗是歲桂陽王休範反並
伏誅四年太一在七宮先起者客西北走其年建平王
景素敗昇明元年太一在七宮不利為客安居之世舉

欽定四庫全書　南齊書 卷一　三十一

事為主人應誅為客者殘沈攸之等反伏誅是歲太一
在杜門臨八宮宋帝禪位不利為客安居之世舉事為
主人禪代之應也

南齊書卷一

Figure 3.1 Text of the 'Remarks' from the *Nan Qi shu*, ch. 1; pp.30–31 [*Qinding siku quanshu* edition].

According to the calculations (of your most humble servant) in the 5th year of Han Gaozu 漢高祖 (237 BC) *Taiyi* was within Palace Four; both the host and the guest received auspicious (signs).[5] One can reckon that the side taking the initiative in war would win. That year Gaozu defeated (the State of) Chu 楚.

In the 2nd year of the Yuanxing 元興 reign-period of the Jin 晉 dynasty (AD 364), *Taiyi* was within Palace Seven. (Now) *Taiyi* represents the emperor, and *Tianmu* 天目 (Celestial Eye) [represents] his adjutant. (Here is a case of *Tianmu*) harassing (*poxie* 迫脅) *Taiyi*. That year Emperor Andi was forced out of his palace by Huan Xuan 桓玄. (Further) the *Dajiang* 大將 (General) was within Palace One while the *Canxiang* 參相 (Deputy Minister) was in Palace Three, blocking (*ge* 格) *Taiyi*.[6] The manual says that blockage means putting oneself in position to block the person in authority, to isolate him from those under his control in order to replace him. This sign is (also) unfavourable for planning (military) movements. Therefore in time of peace it is inadvisable to start any (military) campaign.

In the 3rd year of the Yuanxing 元興 reign-period (AD 365), *Taiyi* was within Palace Seven. (This would not favour the side embarking on a military campaign.) (Emperor) Song Wudi 宋武帝 defeated Huan Xuan (who had started the war in that year).

In the 1st year of the Yuanjia 元嘉 reign-period (AD 424), *Taiyi* was within Palace Six. (The Scholar (*Wenchang* 文昌) was in the *shen* 申 segment harassing *Taiyi*.) This did not favour any initiation of (military) action. (In that year) Xu Fu 徐傅 stripped Prince Yingyang 營陽 of his title.

In the 7th year of the Yuanjia reign-period (AD 430), *Taiyi* was within Palace Eight. This was a bad year for confinement and imprisonment (*guanqiu* 關囚). Neither the General nor the *Xiaojiang* 小將 (Lieutenant) could be established (*li* 立). That year Dao Yanzhi 到彥之 set out on his northern campaign. Initially he won, but eventually he suffered defeat. (The prognostication said that) it was unfavourable for both the guest and the host.

In the 18th year (of the Yuanjia reign-period) (AD 441), *Taiyi* was within Palace Two. This was unfavourable for both the guest and the host. That year the *Di* 氐 (tribal leader) Yang Nandang 楊難當 invaded Liang (zhou) 梁州 and Yi (zhou) 益州 (prefectures). The next year (he was defeated and) Chouchi 仇池 fell (to the troops of Liu Song 劉宋).

In the 19th year (of the Yuanjia reign-period) (AD 442), *Taiyi* was within Palace Three, while both the General and the Lieutenant were being confined (*guan* 關) and could not be established (*li*).[7] This was an ominous sign (for the guest). That year Pei Fangming 裴方明 attacked Chouchi and captured the Baiqing 百頃

(mountain), but the next year he was defeated and lost (what he had gained).

In the 1st year of the Taishi 泰始 reign-period (AD 466), *Taiyi* was within Palace Two, being hemmed in and attacked (*yanji* 掩擊) by the General and the Lieutenant.[8] That year (Liu Ziye 劉子業, the eldest son of Emperor Xiaowudi 孝武帝, ascended the throne and adopted the reign-period) Jinghe 景和. (He was assassinated and his brief reign-period title) was terminated (being replaced by that of Taishi).

In the 2nd year of the Taishi reign-period (AD 467), *Taiyi* was within Palace Three, an ominous sign for taking initiative in making the first move, as victory would favour the host. That year (Liu) Zixun 劉子勛 (who was) Prince Jin'an 晉安 (third son of Emperor Xiaowudi) rebelled (but came to a disastrous end).

In the 2nd year of Yuanhui 元徽 (AD 474), *Taiyi* was within Palace Six, foreboding defeat for the side that made the first move. That year Xiufang 休範, Prince Guiyang 桂陽 (eighteenth son of Emperor Wendi), rebelled but was slain.

In the 4th year of Yuanhui (AD 476), *Taiyi* was within Palace Seven. The side that made the first move would be the guest; [the prognostication was that the guest would lose and] flee in the northwest direction. That year, Jingsu 景素, Prince Jianping 建平, suffered defeat.

In the 1st year of the Shenming 昇明 reign-period (AD 477), *Taiyi* was within Palace Seven, which was unfavourable for the guest.[9] In times of peace, the side that takes the initiative to make the first move is the host, while the side that responds is the guest. Yuan Can 袁粲 and Shen Youzhi 沈攸之 rebelled, but were (defeated and) slain.

That year *Taiyi* was within the Gate of Rejection (*dumen* 杜門) descending upon Palace Eight.[10] Emperor Andi 安帝 abdicated. The sign was unfavourable to the guest. In times of peace the side that made the first move would be the host. Hence the response in human (affairs) was the abdication of Andi (in favour of Xiao Daocheng 蕭道成, founder of the Southern Qi dynasty).

Xiao Zixian (489–537), the compiler of the *Nan Qi shu* as well as the *Jinshi gao* 晉史稿 (Draft History of the Jin Dynasty), belonged to the same family clan as the emperors of Liang. He enjoyed a reputation as a boy prodigy and was later known as the most talented scholar of the dynasty. His biography in the *Liangshu* describes him with the words '*shi cai ao wu* 恃才傲物 – relying on his own talent, he gave way to pomposity'. Therefore, he was apparently an arrogant person. It also mentions that Emperor Wudi 武帝 (reigned 501–556) had bestowed upon him the posthumous name 'Jiao' 驕 (Pride).[11] It appears that Xiao Zixian had availed

himself of a suitable occasion to display his talent and knowledge of the obscure method of *Taiyi* while writing the *Nan Qi shu*. As we can see, he was trying to use the *Taiyi jiugong* method to work out and rationalize major historical events from the 5th year of the Han emperor Gaozu (202 BC) to the 1st year of Emperor Shundi of the (Liu) Song dynasty (AD 477), over a period of 679 years, and to explain the coming into being of the Southern Qi dynasty. Xiao Zixian in the sixth century was making a public demonstration of his skill in calculating the 'numbers of the heavens' (*tianshu* 天數). Knowing the numbers of the heavens was knowledge held in the highest esteem in traditional China. It was the traditional Chinese equivalent to solving the riddle of the universe to people in our modern age.

In traditional Chinese scholarship, an account in an official dynastic history, particularly in the Chronicles of the Emperors (*benji* 本紀), deserved special attention. A great deal of importance ought to be given to the Historiographer's 'Remarks' in the *Nan Qi shu* since they attempt to elucidate the numbers of the heavens. Yet few scholars have seen fit to annotate or comment on the 'Remarks', and historiographers after Xiao Zixian never emulated him in trying to calculate the numbers of the heavens in any of the other official dynastic histories. The vast majority of scholars seem to have found the passage too technical, because of the difficult calculations, and simply passed over the 'Remarks', feeling that they could move on to the next passage in the text without missing any historical events of import. Most of the historiographers after Xiao Zixian probably could not understand the method well enough to make another attempt. One exception might perhaps have been Li Chunfeng 李淳風 (602–670), the compiler of the Astronomical Chapters in both the *Jinshu* 晉書 and the *Suishu* 隋書. He ought to have been acquainted with the method, but even he did not get himself as heavily involved as Xiao Zixian, for very good reason, as we shall see presently.

One significant omission in the 'Remarks' is the year 420 when Emperor Gongdi 恭帝 of the Jin dynasty abdicated and marked the beginning of the (Liu) Song dynasty. Xiao Zixian seems to have been unable to calculate the appropriate position of *Taiyi* to rationalize this important event because none can be found. Furthermore, one of the results given in the 'Remarks' appears to have been manipulated to suit the occasion – something that seems to have gone unnoticed hitherto. I would like to reiterate here that, to traditional scholars, understanding 'the numbers of the heavens' was simply regarded as far beyond their reach. Hence, few annotations and commentaries were attempted on the 'Remarks'.

Xiao Zixian gives no explanation on the method he uses. Through his 'Remarks' in the *Nan Qi shu* he has, however, rendered invaluable service to our understanding of the *Taiyi* method which was later adopted officially in China for a duration of six or seven hundred years beginning in the eleventh century. The earliest book that we have on the particular form of

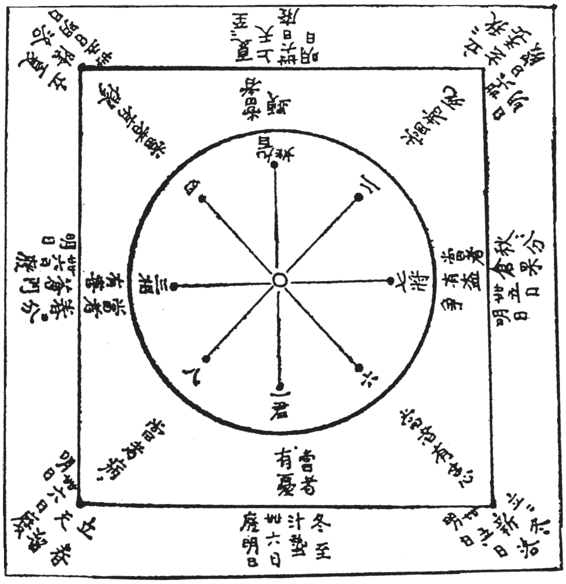


Figure 3.2 Archaeological specimen of Han cosmic board, from Yan Dunjie (1985).

the *Taiyi* method, that was included within the *sanshi* 三式 (three cosmic board systems) of the Song period, is the *Taiyi jinjing shijing* 太乙金鏡式經 (*Taiyi* Golden Mirror Manual), which is included in the *Qinding siku quanshu* 欽定四庫全書. It was written by Wang Ximing 王希明 in the Tang period, but the edition in the *Qinding siku quanshu* has other later additions appended to it, and therefore causes uncertainties in dating. Yan Dunjie identified one *Taiyi* cosmic board among several boards of the Han period unearthed in recent archaeological excavations (see Figure 3.2). However, at best we can only regard this specimen as a rudimentary form of that used in the Song three cosmic board systems. Yamada Keiji has studied the scripts on the same board, but has only associated it with the Nine Palaces.[12] Until the 'Remarks' by the Historiographer Xiao Zixian were studied, the *Taiyi* method used in the Song three cosmic board systems could be traced back only to the time of Wang Ximing, and with some uncertainty. A reconstruction of the method employed by Xiao Zixian from his 'Remarks' in the *Nan Qi shu* shows that it is essentially the same as that in the Tang text and it is also essentially the same as that in a Ming work, *Taiyi taojinge* 太乙淘金歌 (Mnemonic Rhymes on [Retaining the Essentials of] the *Taiyi* Method [like the process of] Gold Washing), included in the *Gujin tushu jicheng* 古今圖書集成. This Ming text was written by Liu Yangkun 劉養鯤, with a preface dated 1627. Hence Xiao Zixian's 'Remarks' prove that the *Taiyi* method used in the Song three cosmic board systems was known at least by the sixth century.

The term *Taiyi* in the *Taiyi* method

The character for *Tai* in the term *Taiyi* is generally written as 太, but sometimes as 泰. Likewise, *yi* appears in two interchangeable forms as 乙 or 一, both having identical meanings when used in the term *Taiyi*, but not necessarily so in other instances. *Taiyi* 太一 was the name of a faint star within the circumpolar constellations, according to the Astronomical Chapter (*tianguanshu* 天官書) of Sima Qian's 司馬遷 *Shiji* 史記 (Historical Memoirs). It could perhaps be the star (184) Draconis. As a rule, certainty of the identification of stars varies according to their brightness. A star nearby to *Taiyi* is *Tianyi* 天一 (Heavenly Unity), which is probably 10i Draconis. In Chinese astrology, stars played a material-cum-spiritual role, behaving sometimes as celestial bodies and sometimes as spirits-in-residence within the stars, with the freedom to travel outside their abodes. One may recall the days before the invention of the telescope when the physical nature of heavenly bodies was similarly unknown to people in Europe.[13] According to an old story, China was ruled by three legendary kings, namely Tianhuang 天皇 (Heavenly Emperor), Dihuang 地皇 (Earthly Emperor) and Renhuang 人皇 (Human Emperor). After their deaths the spirit of Tianhuang became known as Tianhuang Taidi 天皇太帝 and resided in the star Yaopobao 曜魄寶 (Polaris). The spirit of Dihuang became the resident-deity of the star *Tianyi*, and that of Renhuang became the resident-deity of *Taiyi*. Both of the latter two deities were subordinate to the first.[14] There was also a conflicting story in the *Shiji* claiming that *Taiyi* was the deity of the Pole Star itself and saying that (the Spirit) *Taiyi* normally resides at the star *Beiji* 北極 (the Pole Star).[15] This discrepancy illustrates the many different, often conflicting, arguments on the identity of *Taiyi*. Those who wish to pursue the matter further may refer to Xiao Ji's 蕭吉 *Wuxing dayi* 五行大義 that took even the Han scholar Zheng Xuan 鄭玄 to task for his mistaken interpretation. They may also see the elaborate references to *Taiyi* in Yu Zhengxie's 俞正燮 (1775–1840) *Guisi leigao* 癸巳類稿 and in a more recent work by Qian Baozong.[16] Yu Zhengxie, for example, defended Zheng Xuan by saying that there are two meanings for the term *Taiyi*, depending on whether it stood alone or was mentioned together with *Tianyi*. When mentioned alone, *Tianyi* and *Taiyi* were two different names for the same Supreme Deity who resided at Polaris. However, when *Taiyi* and *Tianyi* were mentioned together they referred to two of the 12 deities found residing outside the walls of the *Ziwei* enclosure.[17]

In the Astronomical Chapters of the *Jinshu* 晉書 one finds the following quotation:[18]

> The star *Tianyi* (Heavenly Unity) is north of the star on the right-hand side at the Gate of the Purple Palace. It is the Spirit of an emperor in the heavens. Also governing wars and combats, it knows the good and bad fortunes of man. The star *Taiyi* (Great Unity) is

> south of and near the star *Tianyi*. It is also the Spirit of an emperor in the heavens, controlling sixteen other spirits, and knowing the incidences in different states of wind and rain, flood and drought, weapons and armaments, hunger and famine, diseases and epidemics, and damage caused by calamities.

The above seems to serve as the basis of the belief in the three cosmic board systems in general and the *Taiyi* method in particular.

The presence of the *Taiyi* deity need not necessarily be confined to the star *Taiyi* itself. For example, the *Jinshu* also has the following to say:[19]

> The stars of *Santai* 三台 (Three Platforms) (identified as ι, κ, λ, μ, ν, and ξ Ursae Majoris) are also said to form the steps of the heavens – the steps on which *Taiyi*, an emperor of the heavens, sets foot when he ascends and descends (from his throne).

Hence the star *Taiyi* would seem to be the principal residence of its spirit namesake who, as in the case of the *Taiyi* method, makes regular movements within the *jiugong* magic square, corresponding to his visits among the stars of the Plough.

In mentioning *Taiyi* as the name of a deity, Sima Qian's *Shiji* (Historical Memoirs) tells about a certain Miu Ji 繆忌 memorializing Emperor Han Wudi 漢武帝 on how to worship the deity *Taiyi*. Consequently, a temple was built at the southeastern outskirts of the capital for this purpose.[20] *Taiyi* also frequently featured in Daoist liturgy and meditation practice as found in the Daoist *Tripitaka*. However, such references have little bearing on the three cosmic boards. Later on, the number of deities bearing the same name proliferated. By the time of the Song period there were 10 *Taiyi* deities, and various temples were built to worship them individually. Shen Gua's 沈括 (1031–1095) *Mengxi bitan* 夢溪筆談 lists them as *Taiyi* 太一, *Wufu Taiyi* 五福太一, *Tianyi Taiyi* 天一太一, *Diyi Taiyi* 地一太一, *Junji Taiyi* 君基太一, *Chenji Taiyi* 臣基太一, *Minji Taiyi* 民基太一, *Dayou Taiyi* 大遊太一, *Qi Taiyi* 氣太一, and *Shishen Taiyi* 十神太一.[21] These were not all. Other deities with the name *Taiyi* appeared in books on the *Taiyi* method. The *Taiyi jinjing shijing* mentions the names *Tianhuang Taiyi* 天皇太乙, *Difu Taiyi* 帝符太乙, *Tianshi Taiyi* 天時太乙, *Taizun Taiyi* 太尊太乙, *Feiniao Taiyi* 飛鳥太乙, *Wuxing Taiyi* 五行太乙, *Sanfeng Taiyi* 三風太乙, *Wufeng Taiyi* 五風太乙, and *Bafeng Taiyi* 八風太乙.[22] Some of these deities featured in a method for meteorological forecasting, and others became deities in the *Siji Taiyi* 四計太乙 and the *Taiyi rendao mingfa* 太乙人道命法 variations of the system, as will be described later in this chapter.

It only remains to mention two other entirely different interpretations of *Taiyi*. The first is found in writings on bamboo slips of the fourth century BC, unearthed from a tomb of the Chu period at Guodian 郭店 in 1993. The term '*Taiyi*' appears in a short passage entitled '*Taiyi sheng shui* 太一生水',

which is regarded by some as part of the *Laozi* 老子 and by others as a separate text. A recent explanation of the passage interprets *Taiyi* as the fundamental substance from which all things were derived.[23] A second interpretation appears in the Preface of the *Taiyi taojinge*, which mentions a connection between *Taiyi* and the Supreme Pole *Taiji* 太極 in the system of the *Yijing*. It says:

> *Taiyi* is *Taiji*; the two Eyes (*ermu* 二目) are the two cosmological forces (*liangyi* 兩儀); and the four Senior and Junior Warriors (*daxiao sijiang* 大小四將) are the four Symbols (*sixiang* 四象). Together (*Taiyi* plus two Eyes and plus four Warriors) make up the number 7 of the Seven Regulators.

Hence, *Taiyi* in the *Taiyi* method has something to do with a star, a deity, the Supreme Pole *Taiji*, a combination of a deity and a star, or a combination of a deity and the Supreme Pole.

The *Taiyi* cosmic board

The *Taiyi* cosmic board consisted of concentric circles, usually five in number. The first circle in the centre corresponded to Palace Five of the *jiugong* magic square, but was usually left empty. The other circles were each divided into 16 equal segments. Within the second circles were the numbers 1 to 9 (minus the number 5) of the *jiugong* magic square, the twelve terrestrial branches (*dizhi*) and four of the eight Trigrams, *qian*, *kun*, *ken*, and *sun*, such that the four cardinal points (of the compass) were *zi*, *wu*, *you* and *mao* in the traditional Chinese *fangwei* 方位 order, corresponding to N, S, W and E, and also occupied by *jiugong* Palace Eight, Palace Two, Palace Six and Palace Four respectively. Then the points NW, SW, NE and SE in the traditional Chinese *siwei* 四維 order were taken up by the Trigrams *qian*, *kun*, *ken* and *sun* and the *jiugong* Palaces One, Seven, Three and Nine respectively. The other segments in the second circle were occupied by the remaining eight terrestrial branches *chou*, *yin*, *chen*, *si*, *wei*, *shen*, *xu* and *hai* in their sequence in a cyclic order beginning with *chou* next to the first branch *zi*. In the third circle were placed the names of the deities corresponding to the twelve terrestrial branches and the *siwei* NW, SW, NE and SE. They were the so-called 16 deities (*shiliu shen* 十六神). Details concerning the names of the 16 deities in subordination to the deity *Taiyi* are given in the *Wuxing dayi*.[24] In the fourth circle were the names of the geographical regions in China associated with the 16 positions. The first to the fourth circles were fixed, forming what we may like to call the *dipan* 地盤 (Earth Board), although this name was not often used in literature on the *Taiyi* method (see Figure 3.3).

The outermost circle indicated the positions of *Taiyi* and other deities that were to be determined by calculations. As the positions were variable

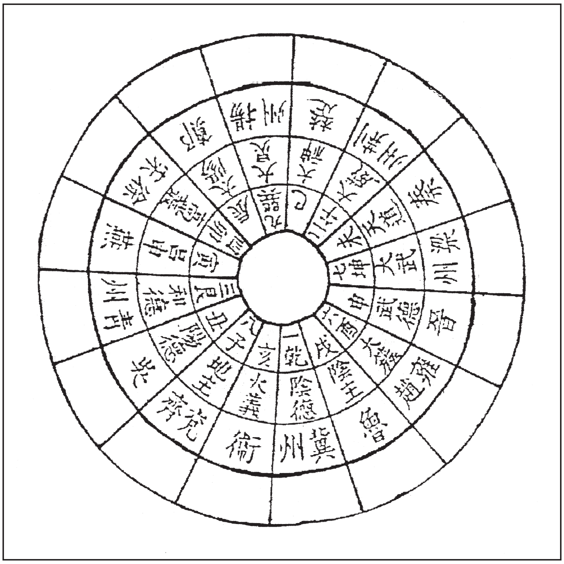


Figure 3.3 Basic *Taiyi* board [based on *Gujin tushu jicheng: yishu dian*, ch. 689].

this circle could well be given the name *tianpan* 天盤 (Heaven Board), although again this term is not often encountered in literature on the *Taiyi* method. *Taiyi* would move only among the eight palaces in the outermost circle. Then came the two Eyes (*ermu* 二目), namely the Celestial Eye (*tianmu* 天目) or Host Eye (*zhumu* 主目) and the Terrestrial Eye (*dimu* 地目) or Guest Eye (*kemu* 客目). They were more popularly known respectively as the Scholar (*Wenchang* 文昌) and the Attack Initiator (*Shiji* 始擊). There were also the four Warriors (*sijiang* 四將) comprising the Host General (*zhu dajiang* 主大將), the Host Lieutenant (*zhu canjiang* 主參將, otherwise known as *zhu xiaojiang* 主小將), the Guest General (*ke dajiang* 客大將) and the Guest Lieutenant (*ke canjiang* 客參將, otherwise known as *ke xiaojiang* 客小將). Lastly came the Planner deity (*jishen* 計神), otherwise known as the Superintendent (*jianjiang* 監將). The four Warriors together with the Superintendent were also referred to as the five Warriors (*wujiang* 五將). The positions of the two Eyes and the five Warriors on the outermost circle had to be determined from calculations.

According to the *Taiyi taojinge*,

> *Taiyi* travels and sojourns in one (of the *jiugong*) palaces once every three years (*Taiyi san nian yi gong you* 太乙三年一宮遊) [and] *Taiyi*, being itself from the position of *Water*, comes to a halt when approaching *Earth*. Hence (*Taiyi*) avoids Palace Five at the centre and does not enter there. During the first year of visits to the

> other palaces *Taiyi* governs matters in the heavens, the second year happenings on earth, and the third year human affairs.

When calculations were made after winter solstice and before the next summer solstice *Taiyi* would move among the palaces in the order One, Two, Three, Four, Six, Seven, Eight, Nine, One, Two, missing Five at the centre. This was called progressive movement (*shunxing* 順行) or, more popularly, *Yang* order counting (*Yangdun* 陽遁).[25] When calculations were made after summer solstice and before the next winter solstice, *Taiyi* would move among the palaces in the order Nine, Eight, Seven, Six, Four, Three, Two, One, Nine, Eight, etc., missing Five at the centre. This was called reversed movement (*nixing* 逆行) or, more popularly, *Yin* order counting (*Yindun* 陰遁). It is found that all cases in the Historiographer's 'Remarks' in the *Nan Qi shu* employed only progressive movement in their calculations. If the palaces of the *jiugong* were regarded as representations of stars in the Plough, then *Taiyi* under such circumstances could not be the star referred to in the *Shiji*, but rather the deity of that star that would make regular visits to the stars in the Plough. The first objective of the *Taiyi* method was to pinpoint the locations of *Taiyi*, the two Chiefs and the five Warriors, using a process of calculations described below.

In theory, it was essential for a practitioner of the *Taiyi* method to use a correct interval of an ancient Superior Epoch. Wang Ximing at about the time of Yixing used an interval of 1,937,281 years, quite different from those employed by calendar-makers that we know of. It was likely that Wang Ximing made his own calculations. It is interesting to note that an interval of 10,155,341 years for the Superior Epoch was used in the seventeenth-century Ming text *Taiyi jinjingge*, when Guo Shoujing had already discarded the Superior Epoch for calendar-making four centuries earlier. Reading this far, one has probably formed the impression that to understand the Historiographer's 'Remarks' in the *Nan Qi shu* would require a knowledge of calculating the ancient Superior Epoch, or at least what the historiographer Xiao Zixian himself used as the ancient Superior Epoch. The 'Remarks' gives no indication of the value used by Xiao.

In the *Taiyi* method a Superior Epoch comprised 360 years, or six *jiazi* sexagenary cycles (*ji* 紀) of 60 years each. *Taiyi* remained three years in each of the eight palaces he visited, thus taking 24 years to make one circuit and to return to the same palace. This would give rise to 24 different configurations (*ju* 局) on the *Taiyi* cosmic board by the *Yang* order counting (*Yangdun*), if the calculations were performed after the winter solstice, and another 24 different configurations by the *Yin* order counting (*Yindun*), if carried out after the summer solstice. For the next 24 years, another 24 different configurations of the *Taiyi* cosmic board for each of the *Yang* and *Yin* order counting would result, and the same would apply for the third round of 24 years. After 72 years, the 72 configurations on the *Taiyi* cosmic board for both *Yang* and *Yin* counting would repeat themselves.

宮局	第一宮〔九〕			第二宮〔八〕			第三宮〔七〕			第四宮〔六〕			第六宮〔四〕			第七宮〔三〕			第八宮〔二〕			第九宮〔一〕		
甲	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
子	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	乙	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
元	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
丙	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	97	98	99	100	101	102	103	104	105	106	107	108	109	110	11	112	113	114	115	116	117	118	119	120
子	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144
元	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
戊	145	146	147	148	149	50	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168
	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192
子	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216
元	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
庚	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264
子	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288
元	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
壬	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312
	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336
子	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥
	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
元	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸	甲	乙	丙	丁	戊	己	庚	辛	壬	癸
	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥	子	丑	寅	卯	辰	巳	午	未	申	酉	戌	亥

Figure 3.4 The Five *yuan* Epochs [adapted from *Taiyi jinjing shijing*, ch. 1; pp. 11–20. See Ho (1996a)].

A period of 72 years formed an epoch (*yuan* 元). There were five epochs of 72 years in a Superior Epoch (see Figure 3.4). The first epoch was known as the *jiazi* epoch, beginning with Configuration 1 on a *jiazi* year and ending with Configuration 72 on a *yihai* year. The second epoch, known as the *bingzi* epoch, began with Configuration 73 on a *bingzi* year and ended with

Configuration 144 on a *dinghai* year. *Wuzi* epoch, the third of them, began with Configuration 145 on a *wuzi* year and ended with Configuration 216 on a *jihai* year. The fourth, called *gengzi* epoch, came with Configuration 217 on a *gengzi* year and ended with Configuration 288 on a *xinhai* year. The fifth and the last epoch, known as *renzi* epoch, started from Configuration 289 on a *renzi* year and ended with Configuration 360 on a *guihai* year. The configurations of the five epochs are correspondingly identical. Thus Configurations 1, 73, 145, 217 and 289 are identical, and so forth. This applies equally to the configurations by *Yang* and by *Yin* counting. Hence the *Taiyiju* 太乙局 (*Taiyi* Cosmic Board Configurations), which probably forms a part of the Ming text *Taiyi taojinge*, gives 72 configurations for *Yang* order counting and another 72 for *Yin* order counting.[26] After five epochs the configurations would repeat themselves, starting with Configuration 1 on a *jiazi* year once again.

Now let n denote the Configuration number, where n takes values from 1 to 360. Let E be the number of years from the ancient Superior Epoch to the year of a targeted event in the Historiographer's 'Remarks'. Then

$$E = 360m + n \tag{1}$$

where m is a multiple.

This was the traditional method of finding m, after determining E.

Expressed in terms of the position of the configurations within the six sexagenary cycles,

$$n = 60j + p \tag{2}$$

where j takes values from 0 to 5, with $j = 0$ in the first sexagenary cycle, $j = 1$ in the second, $j = 2$ in the third, $j = 3$ in the fourth, $j = 4$ in the fifth, and $j = 5$ in the sixth sexagenary cycle, while p is the position of the configuration according to the order of the sexagenary cycle, taking values from 1 to 60.

Also, expressed in terms of the position of the configuration within the five epochs, we have

$$n = 72y + q \tag{3}$$

where y takes values from 0 to 4, with $y = 0$ in the first *jiazi* epoch, $y = 1$ in the second *bingzi* epoch, $y = 2$ in the third *wuzi* epoch, $y = 3$ in the fourth *gengzi* epoch and $y = 4$ in the fifth or last *renzi* epoch, and q is the sequence of the year in the particular epoch taking values 1 to 72.

Instead of following the traditional method to find n from equation (1) we can employ either equation (2) or equation (3) for the same purpose, provided we know either j and p or y and q.[27] Here we can make use of the

data provided by Wang Ximing in the early eighth century to take equation (2) to work out all the configuration numbers in the Historiographer's 'Remarks'. In other words, we have discovered here a method to circumvent the tedious process of calculating an ancient Superior Epoch to enable us to reconstruct all the configurations of the *Taiyi* board in the Historiographer's 'Remarks'. This method does not even require one to know the Superior Epoch that Xiao used.[28]

According to the calculations given in the *Taiyi jinjing shijing*, the *jiazi* year in the 2nd year of the Xingning 興寧 reign-period (AD 364) of Emperor Jin Aidi 晉哀帝 was in the third *ji* cycle, and that the *jiazi* year in the 10th year of Qin Shihuangdi 秦始皇帝 (237 BC) was in the fifth *ji* cycle. Looking at the years given in the Historiographer's 'Remarks':

(a) The 5th year of Gaozu (202 BC) would be in the 5th *ji* period and the 36th year in the sexagenary cycle, i.e. $j = 4$ and $p = 36$. Hence $n = 60 \times 4 + 36 = 276$; in other words we obtain Configuration 276 on the *Taiyi* cosmic board (see Figure 3.5);
(b) The 2nd year of Yuanxing (AD 403) would be in the 3rd *ji* period, being in the 40th year of the sexagenary cycle. Hence $n = 60 \times 2 + 40 = 160$, giving Configuration 160 (see Figure 3.6);
(c) For the 3rd year of Yuanxing (404) we obtain Configuration 161 (see Figure 3.7);
(d) For the 1st year of Yuanjia (424) we obtain Configuration 181 (see Figure 3.8);
(e) For the 7th year of Yuanjia (430) we obtain Configuration 187 (see Figure 3.9);
(f) For the 18th year of Yuanjia (441) we obtain Configuration 198 (see Figure 3.10);
(g) For the 1st year of Taishi (465) we obtain Configuration 222 (see Figure 3.11);
(h) For the 2nd year of Taishi (466) we obtain Configuration 223 (see Figure 3.12);
(i) For the 2nd year of Yuanhui (474) we obtain Configuration 231 (see Figure 3.13); and
(j) For the 1st year of Shengping (477) we obtain Configuration 234 (see Figure 3.14).

Looking up the configurations from the Ming text *Taiyiju* in the *Gujin tushu jicheng* compendium shown in Figures 3.5 to 3.14 we can compare the results obtained by Xiao Zixian in the fifth century with those worked out many centuries after him. It is found that the method and the interpretation used by Xiao Zixian were essentially similar to those in the Tang until the Ming period. It was the method included in the Song three cosmic boards (*sanshi*) examinations conducted within the Astronomical Bureau.

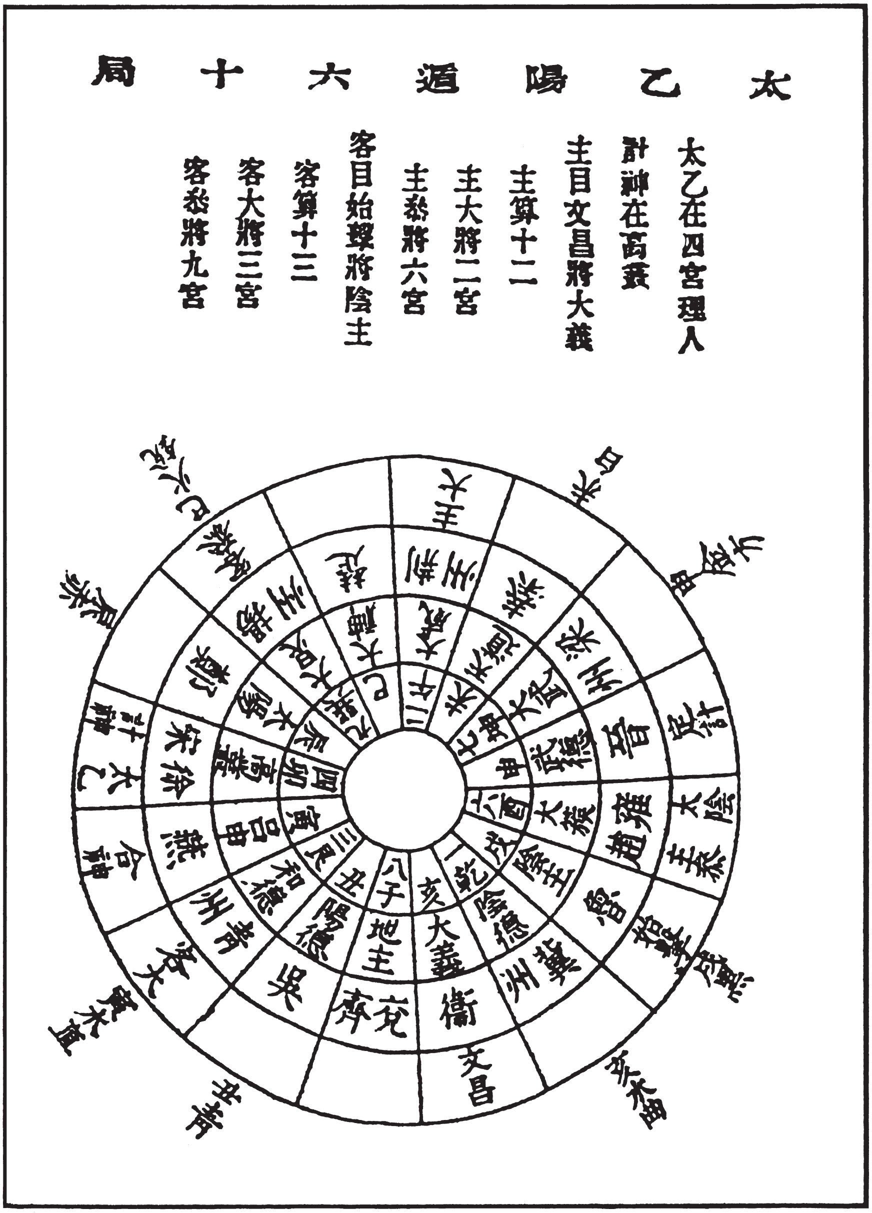


Figure 3.5 *Taiyi* Configuration 276 (= Configuration 60) [from *Gujin tushu jicheng: yishu dian*, ch. 696].

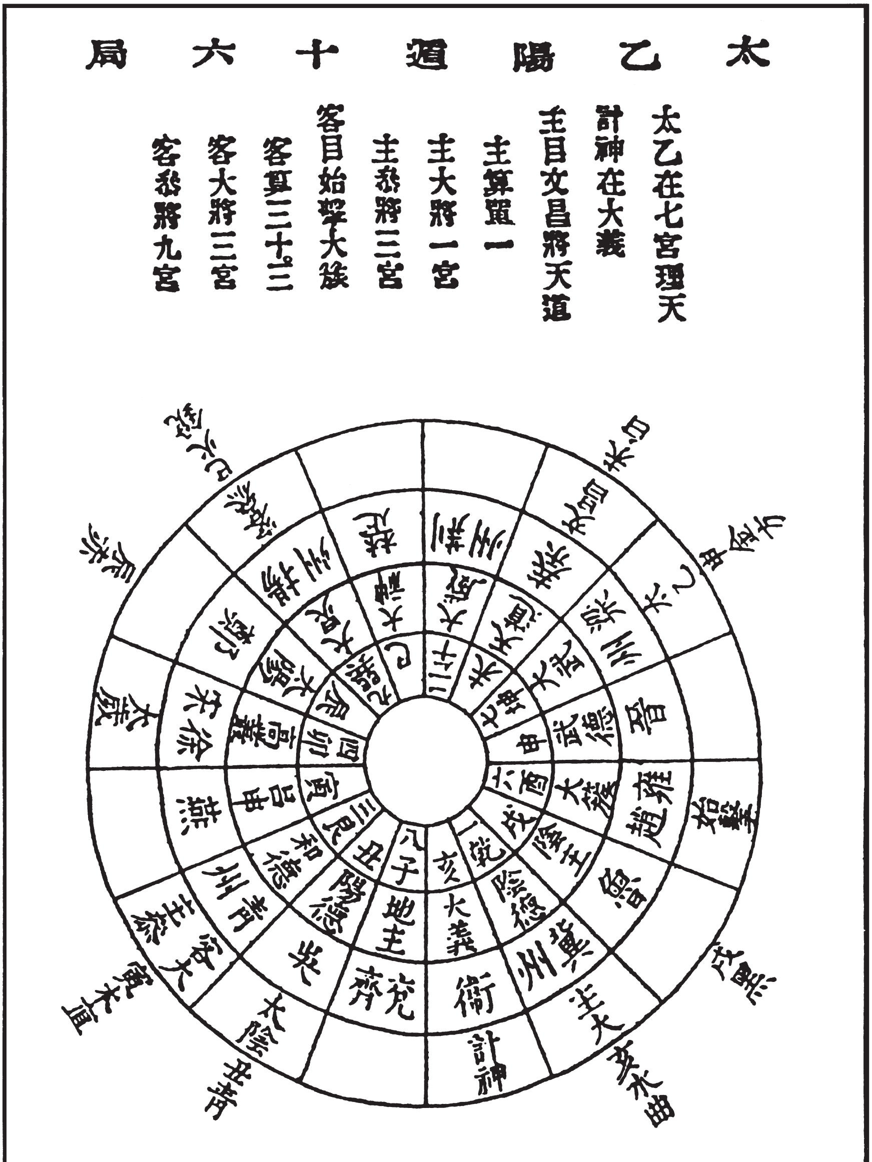


Figure 3.6 Taiyi Configuration 160 (= Configuration 16) [from *Gujin tushu jicheng: yishu dian*, ch. 693].

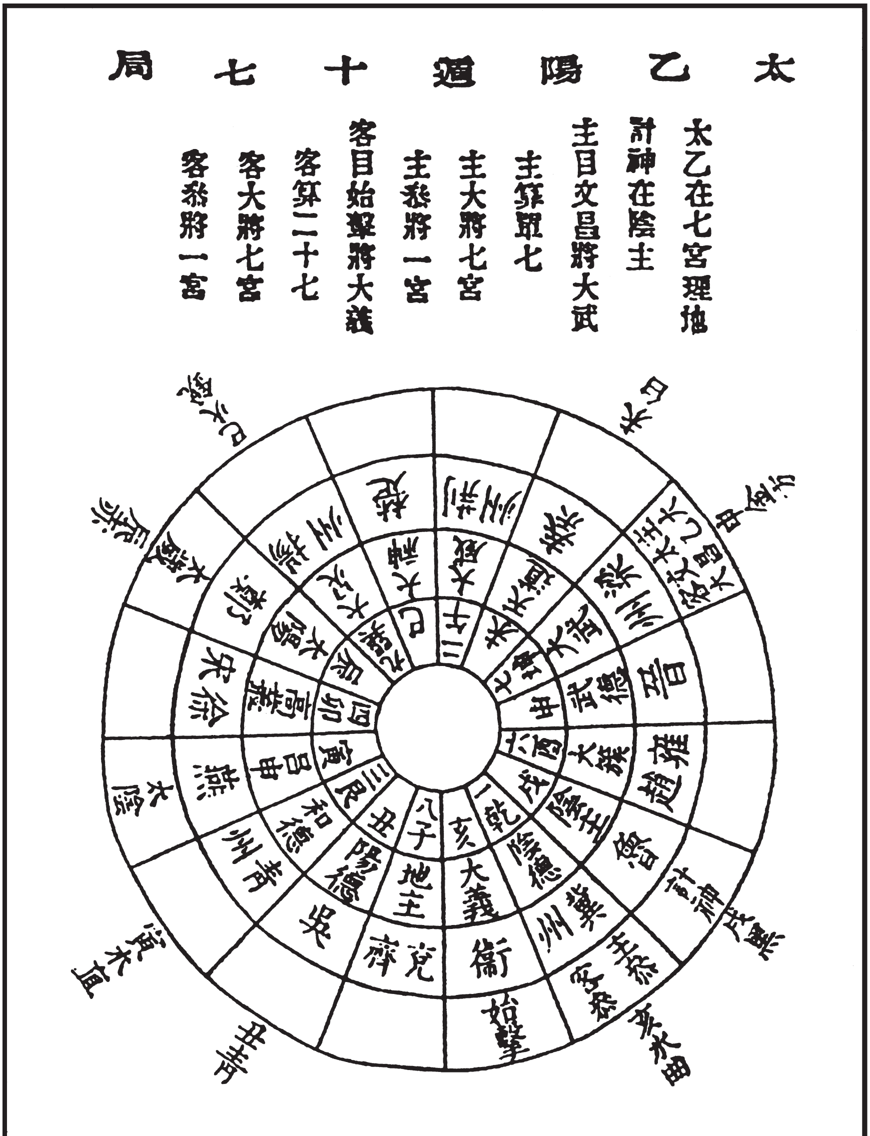


Figure 3.7 Taiyi Configuration 161 (= Configuration 17) [from *Gujin tushu jicheng: yishu dian*, ch. 693].

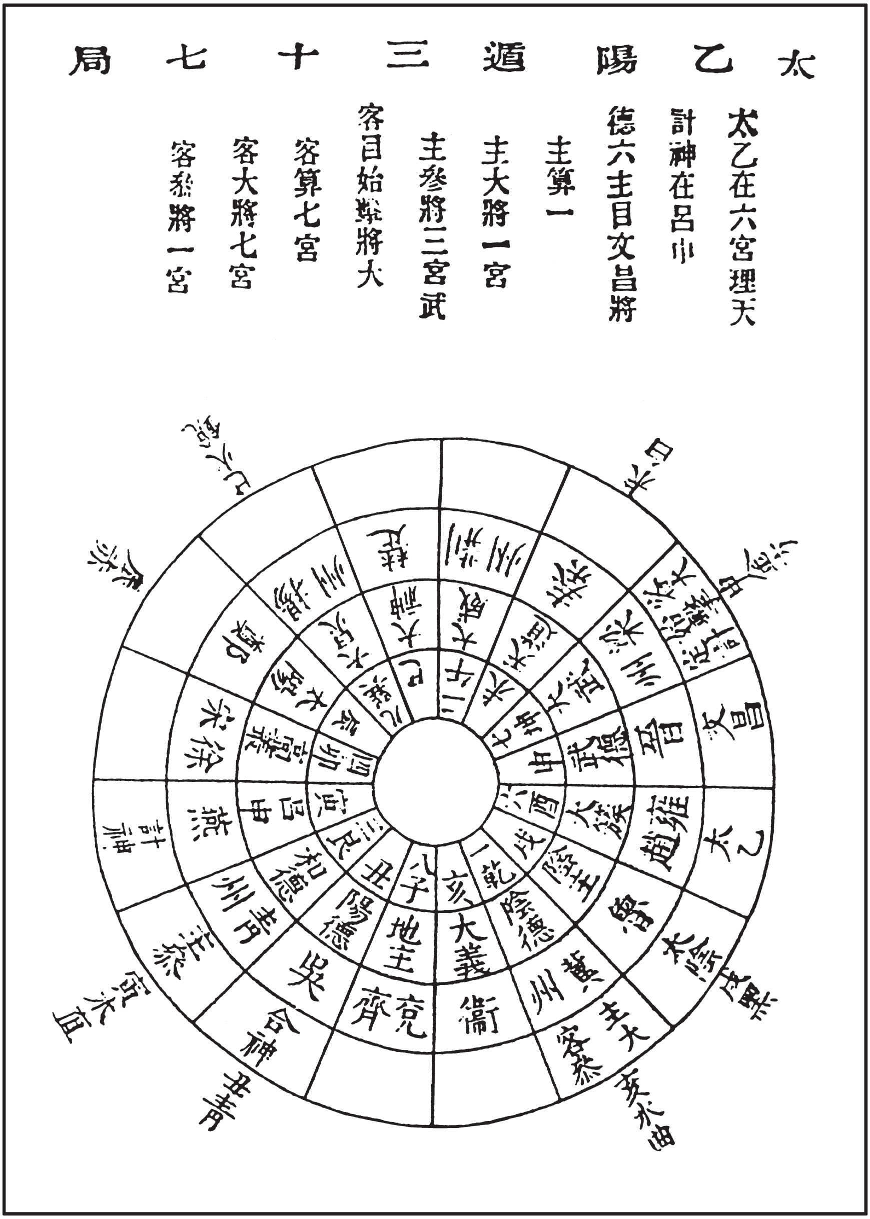


Figure 3.8 *Taiyi* Configuration 181 (= Configuration 37) [from *Gujin tushu jicheng: yishu dian*, ch. 695].



Figure 3.9 Taiyi Configuration 187 (= Configuration 43) [from *Gujin tushu jicheng: yishu dian*, ch. 695].

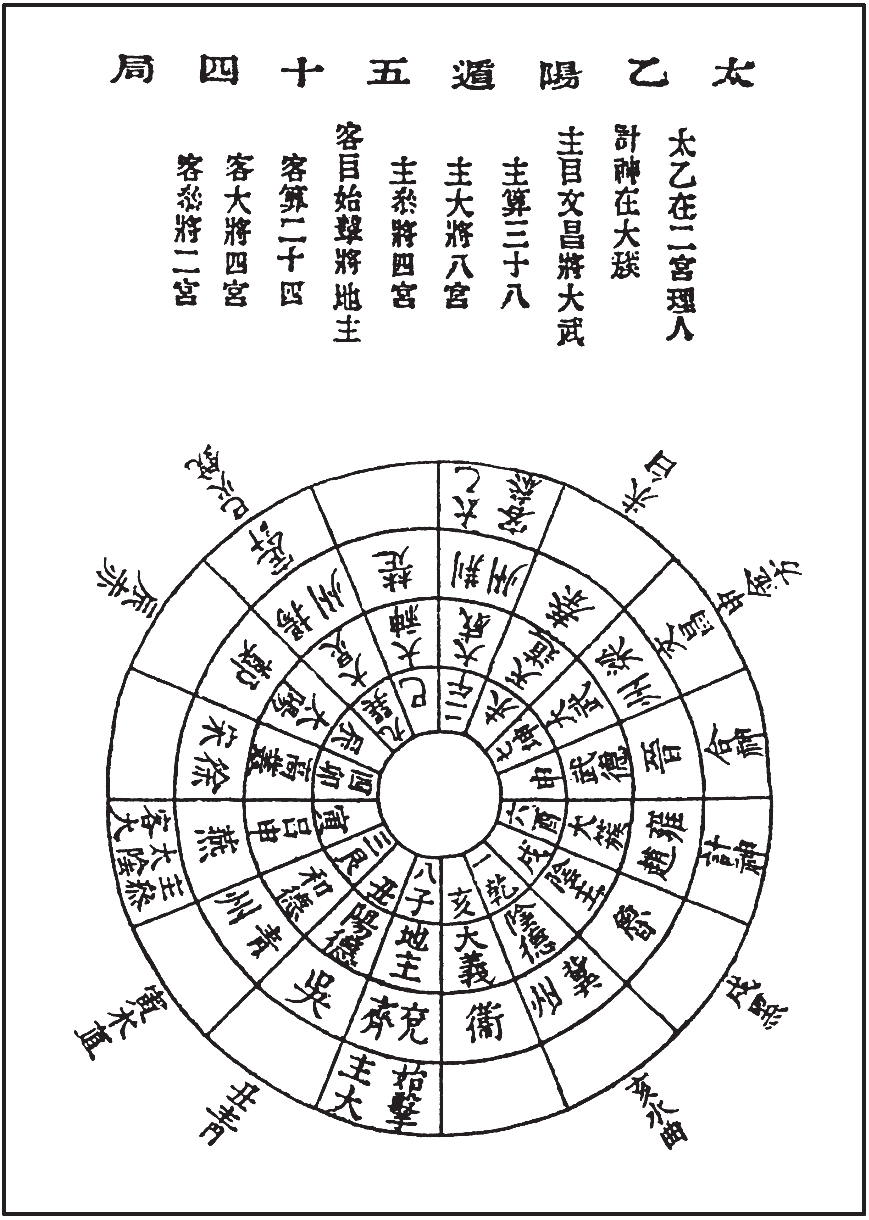


Figure 3.10 *Taiyi* Configuration 198 (= Configuration 54) [from *Gujin tushu jicheng: yishu dian*, ch. 695].

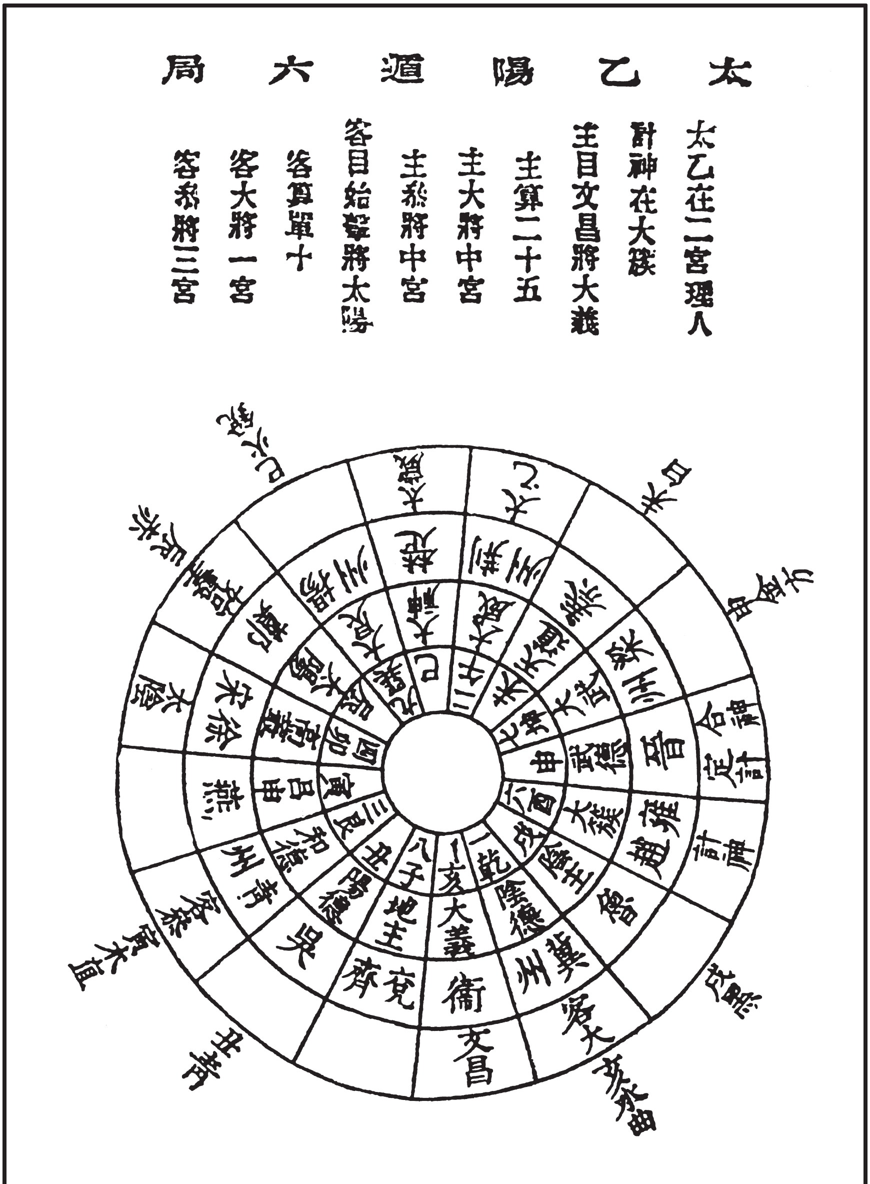


Figure 3.11 *Taiyi* Configuration 222 (= Configuration 6) [from *Gujin tushu jicheng: yishu dian*, ch. 693].

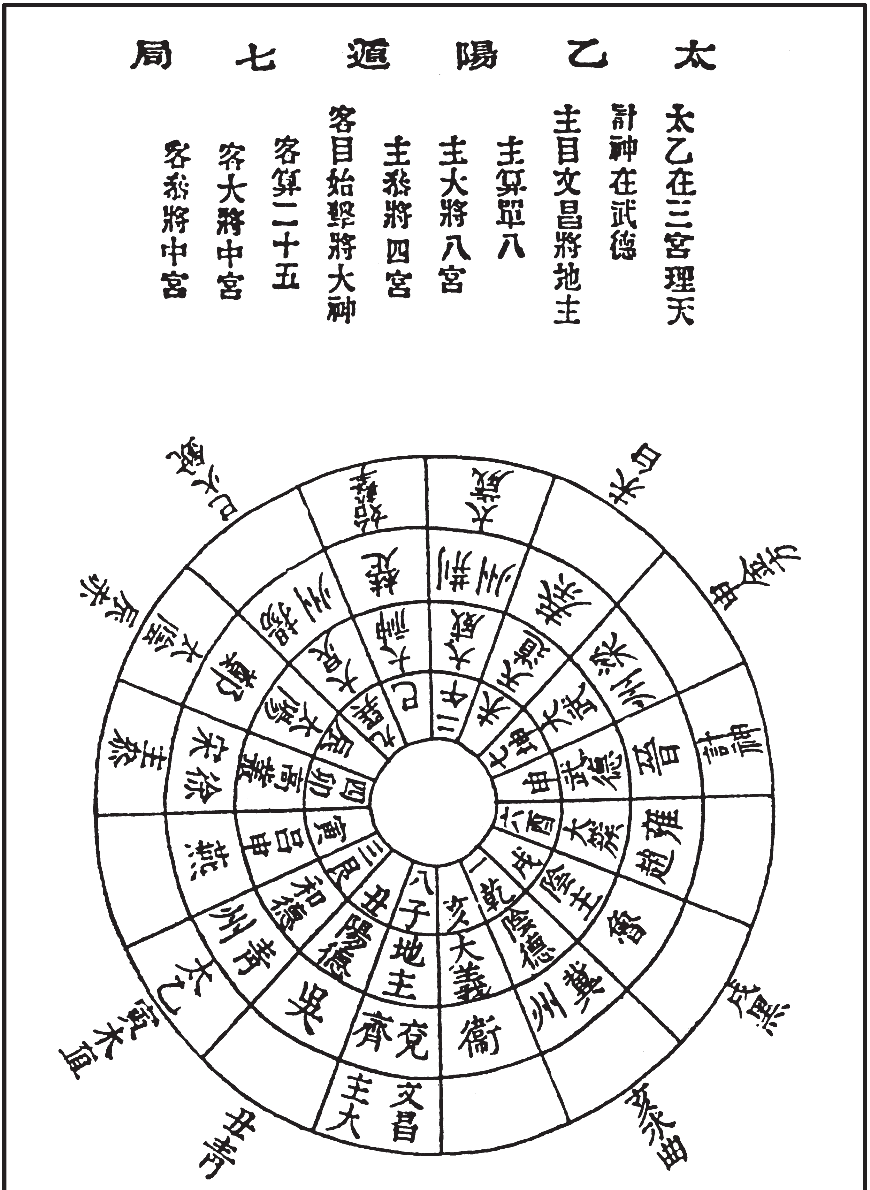


Figure 3.12 *Taiyi* Configuration 223 (= Configuration 7) [from *Gujin tushu jicheng: yishu dian*, ch. 693].

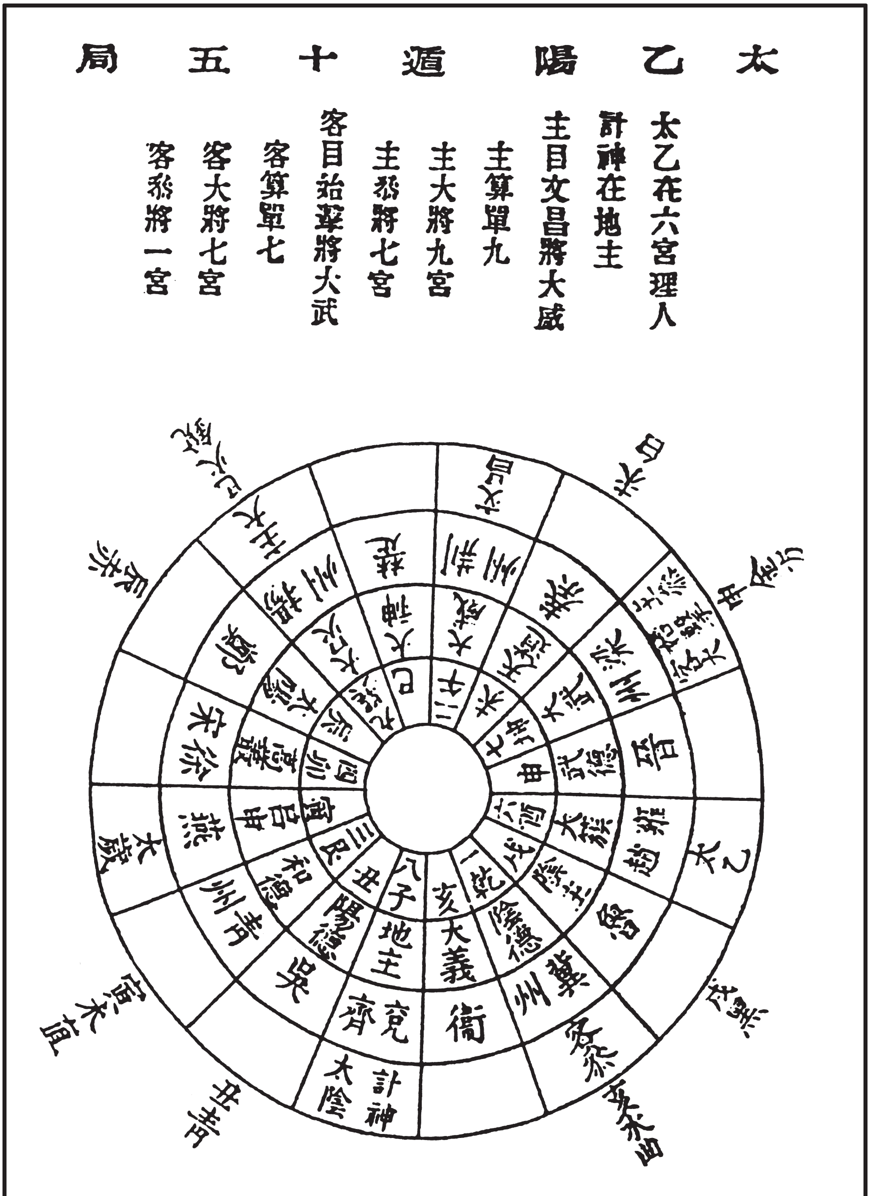


Figure 3.13 *Taiyi* Configuration 231 (= Configuration 15) [from *Gujin tushu jicheng: yishu dian*, ch. 693].

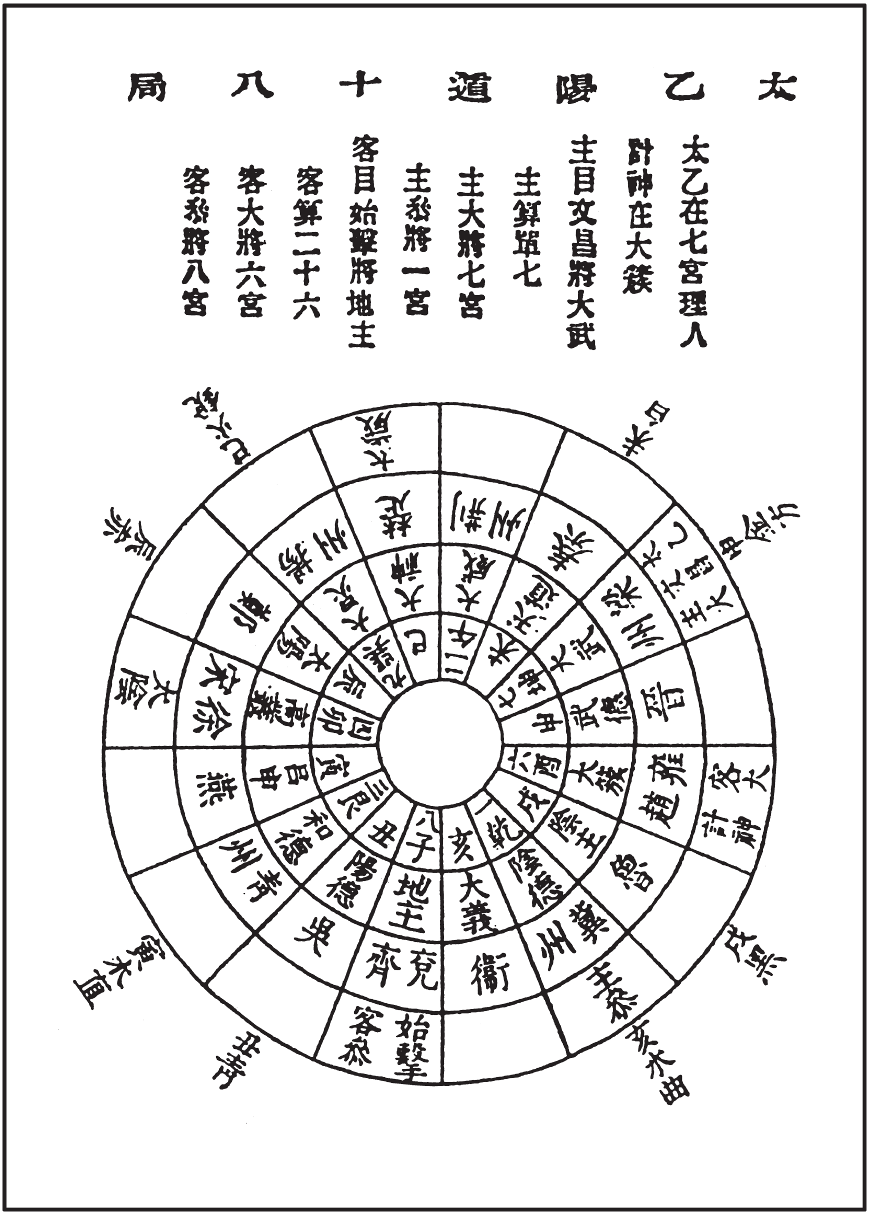


Figure 3.14 *Taiyi* Configuration 234 (= Configuration 18) [from *Gujin tushu jicheng: yishu dian*, ch. 693].

Only the Superior Epoch seemed to vary as in the case of the calendar-makers. We do not have much information regarding this matter. At least we know that Xiao Zixian in the fifth century and Wang Ximing in the eighth century regarded the years 237 BC and AD 364 as Superior Epochs. Those that followed would be the years 724, 1084, 1444 and 1804, to be followed by the year 2164. The Ming text *Taiyi taojinge*, on the other hand, gives the year 1264 as a Superior Epoch, while mentioning a difference of 60 years for the Superior Epoch in use during the Ming period. Accordingly, the Superior Epoch immediately before us would be either 1984 or 1924, depending on whether the Ming or the pre-Ming value is adopted.

The positions of the deities on the *Taiyi* cosmic board could also be found directly without referring to the configuration diagrams in the *Taiyiju*. Let us determine the position of *Taiyi* on the assumption that the Superior Epoch is already known. In a *jiazi* year belonging to the first epoch (Configuration 1), or a *bingzi* year in the second epoch (Configuration 73), or a *wuzi* year in the third epoch (Configuration 145), or a *gengzi* year in the fourth epoch (Configuration 217), or a *renzi* year in the fifth epoch (Configuration 289), *Taiyi* is found in Palace One by *Yang* order counting and Palace Nine by *Yin* order counting. After three years *Taiyi* would move to the next palace and the whole circuit would repeat itself after 24 years. In equation (3), if we know y, the epoch the year is in and also q, the order of the year within, the configuration number n can be known. *Taiyi* takes 24 years to do one circuit and visit eight palaces. Within 72 years, three circuits will be made. The remainder r, derived from dividing q by 24, will give the position of *Taiyi*. $r = 1$, 2 and 3 show *Taiyi* in Palace One by *Yang* order counting, and Palace Nine by *Yin* order counting; $r = 4$, 5 and 6 show *Taiyi* in Palace Two by *Yang* order counting, and Palace Eight by *Yin* order counting; $q = 7$, 8 and 9 show *Taiyi* in Palace Three by *Yang* order counting, and Palace Seven by *Yin* order counting; $q = 10$, 11 and 12 show *Taiyi* in Palace Four by *Yang* order counting, and Palace Six by *Yin* order counting; $q = 13$, 14 and 15 show *Taiyi* in Palace Six by *Yang* order counting, and Palace Four by *Yin* order counting; $q = 16$, 17 and 18 show *Taiyi* in Palace Seven by *Yang* order counting, and Palace Three by *Yin* order counting; $q = 19$, 20 and 21 show *Taiyi* in Palace Eight by *Yang* order counting, and Palace Two by *Yin* order counting; and finally $q = 22$, 23 and 24 show *Taiyi* in Palace Nine by *Yang* order counting, and in Palace One by *Yin* order counting.

Let us take an example from the first case mentioned in the Historiographer's 'Remarks' and calculate the position of *Taiyi* in the fifth year of Emperor Han Gaozu (202 BC), which was the cyclical year *jihai*, and for which we have already found Configuration 276 on the cosmic board. Dividing 276 by 72 leaves a remainder $q = 60$. Again dividing 60 by 24 leaves 12, placing *Taiyi* in Palace Four by *Yang* order counting, which turned out to be the one and only order of counting employed by Xiao Zixian in his 'Remarks' (see Figure 3.5).

The next step is to find the Scholar (*Wenchang*). The Scholar was supposed to take 18 years to make one circuit round the 16 segments, starting from the segment *shen Wude* 武德 deity, and pausing one year at the segments *qian* and *kun*. First divide 276 by 18, leaving a remainder 6. Starting from *shen* segment, move six steps in a clockwise direction, counting one extra step on encountering *qian* or *kun*. This gives the location of the Scholar in the segment *hai* with *Dayi* 大義 deity.

To find the Attack Initiator (*Shiji*) first count the number of segments separating the Scholar from the Planner. In our case, the number is 4. Then starting from the *gen Hede* 和德 deity segment, count the same number of segments towards the direction of the Scholar. Hence we find the Attack Initiator in the segment *hai Yinzhu* 陰主 deity.

Table 3.1

Year branch	*Position of* Jishen
zi	*yin*
chou	*chen*
yin	*zi*
mao	*hai*
chen	*xu*
si	*you*
wu	*shen*
wei	*wei*
shen	*wu*
you	*si*
xu	*shen*
hai	*mao*

To find the Host General and the Host Lieutenant, count the numbers from the Scholar to the segment just before *Taiyi*, taking only the numbers of the Nine Palaces but counting the segment occupied by the Scholar as 1, if that segment does not have a number of the Nine Palaces. In our case, we take 1 from the *hai* segment, 8 in the *zi* segment, 3 in the *gen* segment, add them together to give 12. This number is known as the Host Count (*zhusuan* 主算). The last digit 2 shows the Host General in Palace Two. Multiplying the last digit by 3 gives 6. The Host Lieutenant is in Palace Six.

To find the Guest General and the Guest Lieutenant, count the numbers in the segments from the Attack Initiator to the segment just before that occupied by *Taiyi*, in the same way as for obtaining the Host Count above. Adding 1 in the *xu* segment, 1 in *qian*, 8 in *zi*, and 3 in *gen* together gives 13, which is known as the Guest Number (*kesuan* 客算). The last digit 3 shows the Guest General in Palace Three. Multiplying the last digit by 3 gives 9, showing the location of the Guest Lieutenant in Palace Nine.

Positions of *Taiyi* and the accompanying deities obtained by this method of calculation agree with those given in the *Taiyiju* and fit remarkably

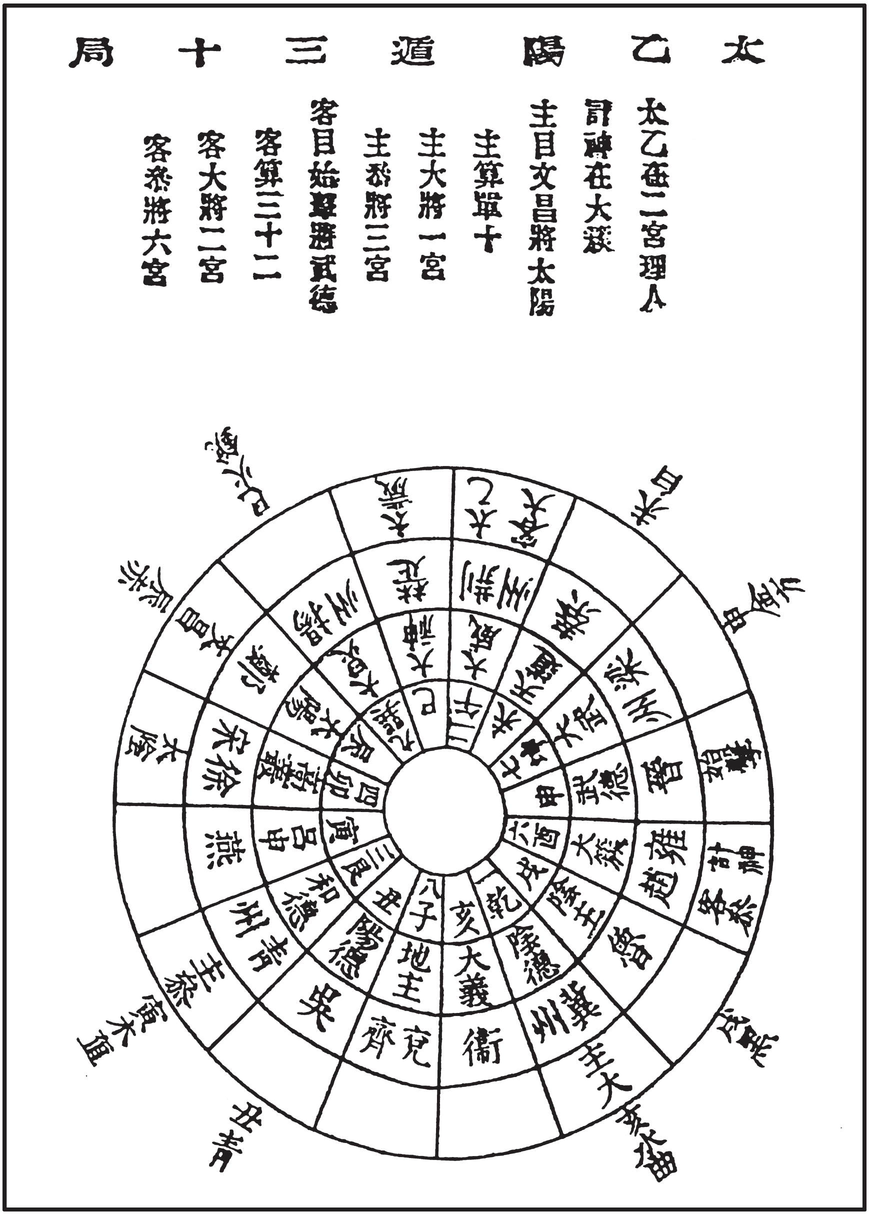


Figure 3.15 *Taiyi* Configuration 102 (= Configuration 30) [from *Gujin tushu jicheng: yishu dian*, ch. 694].

closely with those in the Historiographer's 'Remarks'. The only exception is the case for the *yisi* year of the *Taishi* reign-period (AD 465), for which Xiao Zixian employs Configuration 102 instead of Configuration 222 as he should (see Figure 3.15). Both are for a *yisi* year and both show *Taiyi* in Palace Two, but these two configurations belong to two different epochs and what Xiao Zixian should have used would not explain the happenings that he intends to explain. The use of Configuration 102 in this case may be attributed to the result of a momentary lapse of concentration during the process of calculations, but may also be interpreted as intentional. A clearer case of a copyist's error comes near the end of the Historiographer's 'Remarks' with the sentence '*Taiyi* was in the Gate of Rejection, descending upon Palace Eight.' This sentence is wrongly placed after the 1st year of the Shengping reign-period, when it is already stated earlier that *Taiyi* was within Palace Seven. The sentence ought to come after an additional statement 'In the 3rd year of Shengming reign-period' and amended to read, '*Taiyi* was within Palace Eight, with the Host General in the Gate of Rejection (in Palace Two) diagonally opposite (*ge* 格).' This would readily serve the purpose of explaining the abdication of the Liu Song Emperor Shundi, marking the beginning of the Southern Qi dynasty.

The examples in the Historiographer's 'Remarks' do not give complete information on the *Taiyi* method: the account given in this book is also not meant to be exhaustive. For example, we can easily note that Figure 3.5, taken from the *Taiyiju*, includes several items not mentioned in the 'Remarks'. One of these items is the Year Star *Taisui* 太歲, the invisible counter-rotating correlate of Jupiter. It would be an ominous omen of war to find *Taisui* in direct opposition to *Taiyi*.[29] Another is the second consecutive deity behind *Taisui*, known as *Taiyin* 太陰, which was regarded as an auspicious omen involving intermarriage or presentation of beautiful girls from foreign lands to the emperor. There were also the Combination Deity *Heshen* 合神 and the Plan Determinator *Dingji* 定神. Terrestrial branches combined to form six different pairs of Combination Deities, as listed in Table 3.2.

Table 3.2

zi	*yin*	*mao*	*chen*	*si*	*wu*
chou	*hai*	*xu*	*you*	*shen*	*wei*

For example, when the year was used and the year was *zi* then *Heshen*, the Combination Deity, would be in the *chou* position, and *vice versa*. When it became difficult to read from the *Taiyi* configuration whether one ought to adopt the host or a guest position for a battle, one would reassess the situation and use the Plan Determinator to recalculate the Guest Count to re-examine whether it would be advantageous to initiate an attack on the enemy. Considering the fact that in traditional China defending a position

was regarded as easier than attacking the invader, the Plan Determinator was there to prevent the temptation of taking the easier path without discretion. Outside the 'heaven board' are written names of branches, colours and shapes corresponding to the *wuxing* and directions for military purpose, as a reminder to the appropriate battle formation to employ, colour of banners and uniform to wear and so forth, as described in the next section below.

Traditional applications

In the application of the *Taiyi* method to war and state affairs, the year was used to find the position of *Taiyi*. The method using the year to determine the position of *Taiyi* was also known as *Nianji Taiyi* 年計太乙 (*Taiyi* calculated by the year) or *suiji Taiyi* 歲計太乙. *Taiyi* would represent the Head of State. The Scholar *Wenchang* was the Spirit of Mars and represented the leader of the civil officials. The Planner *Jishen* was the Envoy Spirit of Jupiter, making plans in battle and observing whether victory or defeat would belong to the host or to the guest. To locate *Jishen*, see Table 3.1. The Attack Initiator was the Spirit of Saturn and the planner for the guest warriors. The interpretations of the four warriors are self-explanatory. The most important thing was to distinguish between host and guest. The side taking the initiative to launch a military campaign was the host; the other side would be the guest. However, in subsequent battles, the side making the first attacking move was the guest and the defender the host.

There were several undesirable situations for *Taiyi* to be in. Briefly, it is not good for any of the seven deities to appear in a segment or a palace next to *Taiyi*. This was called *po* 廹 when the prime minister would exert himself upon the emperor if it was the Scholar, or the military chief having the emperor under his control if it was the Host General, and so on. In the special case of the Attack Initiator appearing next to *Taiyi*, it would be called *yan* 掩 (conceal) or *yanji* 掩擊 (concealed attack). In front of *Taiyi* it would be a warning of rebellions among feudal lords, senior ministers or foreign people, and when behind *Taiyi* it would come as a warning that some members of the imperial household or his in-laws would revolt or usurp power. *Taiyi* being hemmed in on either side would not be any better. If on one side was the Host General and on the other side the Guest General, the emperor would be under the threat of both his own army and the enemy forces. Worst of all for the emperor would be having something diagonally opposite to *Taiyi*, known as *ge* 格 (blockage). This was used in the same sense as the modern term *geming* 革命 (revolution), particularly when the Host General or the Scholar was opposite. Such a situation would indicate a rebellion by the military chief and the prime minister respectively against the emperor, as in the last case in the Historiographer's 'Remarks'. Xiao Zixian also used the term *guanqiu* 關囚 (confinement and imprisonment), a general term for multiple occupancy of the same segment

on the *Taiyi* board. Sharing the same palace with *Taiyi* would be known as *qiu*, while warriors sharing the same segment (without *Taiyi*) would be known as *guan*, that is when the last digits of the Host Count and that of the Guest Count are identical. For example, *Taiyi* in the same palace as the Planner would forebode assassination of the emperor or defeat in battle, while *Taiyi* sharing the same palace with one or more of the other warriors would forebode execution among the ranks of civil and military officials. Warriors sharing the same segment would mean that certain officers could not participate effectively in action.

During *Taiyi's* sojourn in the nine palaces, his presence in Palaces One, Three, Four and Eight would generally favour the host, while in Palaces Two, Six, Seven and Nine generally the guest. What was considered to be more important were the Host Count and the Guest Count. The numbers 5, 15, 25 and 35, which would place the warriors in Palace Five in the centre depriving them of a place on the outside board to take part in the proceedings, were bad omens. The Biography of Zhang Kang 張康 in the *Xin Yuanshi* 新元史 (New Official History of the Yuan Dynasty) narrates an instance when Khubilai Khan (1215–1294), in the year 1282, consulted Zhang on his intention to invade Japan, but called off the campaign when he was told that there was no count on the *Taiyi* board (for the Host General and the Host Lieutenant).[30] The year 1282, a *guiwei* year in the Chinese calendar, would give Configuration 32 on the *Taiyi* board. If the calculation were performed before summer solstices, using the Yang order counting of, the Host Count would be 25, which would be a strong warning against initiating a military campaign. The *Wubeizhi* 武備志 (Compendium on Armaments) contains a section entitled '*Taiyi miaosuan* 太乙廟算'. Before launching a military campaign the emperor would offer sacrifices at his ancestral temple and order his expert to perform operations on the *Taiyi* board to find out the Host Count and the Guest Count.

Odd numbers from 1 to 9 were considered bad, unless *Taiyi* and the relevant warriors were found in palaces with even numbers. The same also applied to even numbers from 2 to 10. Numbers like 14 and 18 were regarded as excellent, but 11, 13 and 37 were considered inauspicious, while a Guest Count of 24 was equally bad. Looking again at Configuration 276, in the first case of the Historiographer's 'Remarks', the Host Count is 12 and the Guest Count 13, showing that the count was unfavourable to the guest, and we have already noted that Palace Four was favourable to the host. The Historiographer could have simplified matters by leaving out his rather ambiguous clause 'both the host and the guest received auspicious signs' or delete the part concerning the guest in his 'Remarks'.

Abiding by the principles of the *wuxing*, the Host Count played a significant role in the battlefield. There, the double-hour should be used to compute the *Taiyi* configuration, which would be known as the *Shiji Taiyi* 時計太乙 (*Taiyi* calculated by the time of the day).[31] The *Taiyi miaosuan* 太乙廟算

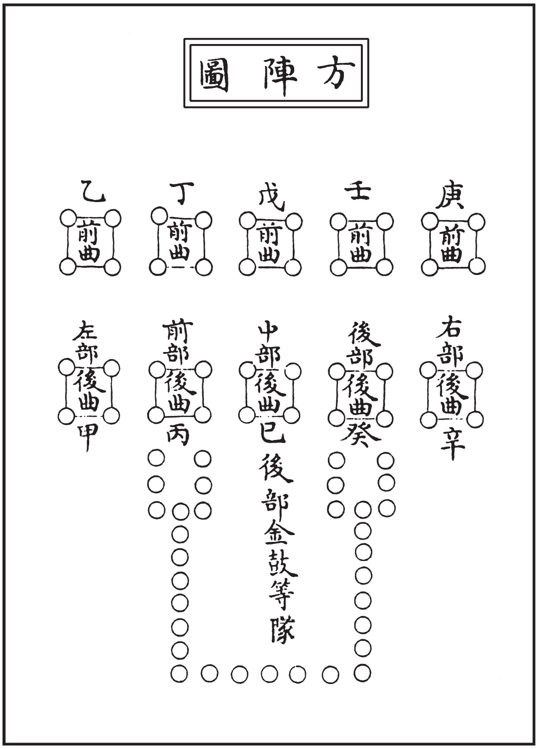


Figure 3.16 The *fangzhen* (Square) Battle Formation, from *Wujing zongyao* (*qianji*), ch. 8 [*Qinding siku quanshu* edition].

informs us that sending out soldiers to the front ought to follow the indications of the count. For example, if the count is 16 take the last digit 6, which corresponds to the *dui* Trigram and belongs to the west, then the enemy is to be engaged by facing them in the opposite direction, i.e. towards the east. For the type of battle formation and the colour of banners, employ the square *Metal* formation (*fangzhen* 方陣), and white as colour for the banners, as in Figure 3.16.[32] (Own) troops should enter and join the formation from the west, the enemy should be engaged in the east, reserves and equipment should be kept in the NW. In the ENW, troops for launching a surprise attack (*qibing* 奇兵) should be stationed. The propitious time for laying an ambush for the enemy (*fubing* 伏兵) is between *chen* and *si* double-hours (between 07:00 and 11:00 hours). Even troops on the move were governed by the same principles of *wuxing*. The *Wubeizhi* says that where the count was 6, vehicles and horses would stay right in front, foot soldiers at the rear and the commanding officer in the middle of the line, drums should be loud and movements brisk, and that offerings should be made by the commanding officer to *Taiyi* and his deities.[33]

Meteorological forecasts

When the year formed the basis of computing the *Taiyi* cosmic board configuration and *Taiyi* was found to enter a palace for the first year, the Host Count would also be used for astronomical and meteorological predictions. When the Host Count was a single digit number, from 1 to 9, one could expect comets, meteors, irregularities in planetary movement and solar and lunar eclipses in the heavens and thunder, lightning, hailstones and unseasonable clouds. During the second year of *Taiyi*'s sojourn in a palace, and the Host Count turned out to be one of the numbers 11, 12, 13, 14, 22, 23, 24, 31, 32, 33 and 34, one could expect earthquake, floods, drought, locusts and famine. During the third year of *Taiyi*'s presence in a palace, Host Counts of 10, 20, 30 or 40 would presage human disaster, such as war, robberies, migration of people and epidemics. For the month, the day and the double-hour were the corresponding *Yueji Taiyi*, *Riji Taiyi* and *Shiji Taiyi*. Together with the *Nianji Taiyi*, they were known together as the *Siji Taiyi* 四計太乙. They were each calculated from the number of years, months, days and hours from a fictitious Superior Epoch. The *Taiyiju*, for example, employs an epoch of 10,155,541 years prior to the fourth year of the Ming Tianqi reign-period (AD 1624), starting from the *jiazi* year in the Superior Epoch at the time of the legendary emperor Tianhuang 天皇. An examination question of a routine type in the Yuan Astronomical Bureau asks the candidate to calculate the palaces where the four *Shiji Taiyi* would be found in a given year, month, day and time. Only the date varied from year to year in questions set in other years.[34] The calculation may seem laborious, but the candidate could simplify matters by just committing to memory the closest *jiazi* year in a Superior Epoch to the year he was in. The deity *Tianmu* 天目 (i.e. *Wenchang*) in the *Taiyi* system was retained, but meteorological deities like *Tianhuang* 天皇, *Difu* 帝符, *Tianshi* 天時, *Taizun* 太尊, *Feiniao* 飛鳥, *Wuxing* 五行, *Sanfeng* 三風, *Wufeng* 五風 and *Bafeng* 八風 were introduced specifically for the purpose. Together these deities were known as *Taiyi Shijing* 太一十精 (Ten Spirits of *Taiyi*). Positions of the Ten Spirits are given in a table provided in the *Taiyiju* and a small section of the table is translated and reproduced in Table 3.3.

As an illustration, let us suppose that *Taiyi* appeared in Palace Two in Configuration 6, as shown in Figure 3.11. The Ten Spirits shown in Figure 3.17 can be readily found by looking up the last column in Table 3.4. Here Palace Two is extreme *Yin* and so is the Configuration number 6. The combination is a sign of abundant rain, especially if it is during the summer months when Palace Two is in the phase of prosperity. *Wufeng* meeting *Taiyi* signifies strong gales and changes in the sun or the moon. *Feiniao* and *Taizun* coming together also predict rain. Each of the Ten Spirits had its individual function, but was only relevant when meeting with or in opposition to *Taiyi* or *Tianmu*. However, predictions of meteorological phenomena made under such circumstances are of a lesser magnitude.

Table 3.3

Position of Taiyi *in the Nine Palaces with Configuration number within brackets*	*One (1) Six (181)*	*One (2) Six (182)*	*One (3) Six (183)*	*Two (4) Seven (184)*	*Two (5) Seven (185)*	*Two (6) Seven (186)*
Tianmu	*shen*	*you*	*xu*	*Qian*	*Qian*	*hai*
Tianhuang	*shen*	*you*	*xu*	*Qian*	*Qian*	*hai*
Difu	*xu*	*Qian*	*hai*	*zi*	*zi*	*chou*
Tianshi	*yin*	*mao*	*chen*	*si*	*wu*	*wei*
Taizun	Eight	Six	Two	Four	Eight	Six
Feiniao	One	Two	Three	Four	Five	Six
Wuxing	One	Eight	Three	Nine	Seven	One
Bafeng	Two	Three	Four	Five	Six	Seven
Wufeng	One	Three	Five	Seven	Nine	Two
Sanfeng	Three	Seven	Two	Six	One	Five

Note: Configuration numbers are those given in Figure 3.4.

It can be seen from the above description that astronomical and meteorological predictions read from the *Taiyi* method could only be given in very general terms. They were much less specific compared to forecasting derived by means of the other two types of cosmic boards. Thus, the *Dunjia* and the *Liuren* methods played a more important part in weather forecasting. The most important role of the *Taiyi* method was found primarily in the prediction of matters pertaining to the emperor and state affairs. The position of *Taiyi*, as shown by Xiao Zixian's calculations in the *Nan Qi shu*, was based on the year. This was the *Nianji Taiyi* method. There were also calculations based on the month in the *Yueji Taiyi* (*Taiyi* calculated by the month), on the day in the *Riji Taiyi* (*Taiyi* calculated by the day) and on the time of the day in the *Shiji Taiyi*, that were used on battlefields on particular days. The *Yueji Taiyi* method was applicable to senior officials, the *Riji Taiyi* to low-ranking officials and those in high social position, and the *Shiji Taiyi* to the common people.

The *Taiyi* system mainly served the purpose of the emperor and state affairs, although it also had a minor role to play for the officials and the common people. However, its calculations were cumbersome, while the range of its predictions could hardly match those of the other two cosmic board systems. It is not surprising that among the common people the *Taiyi* method became the least known of the three cosmic board systems. However, there is a little twist in the story. As we shall see presently, under the influence of Hellenistic, Hindu and Iranian astrology, the *Taiyi* method had undergone a phase of metamorphosis, and evolved into a modern form of Chinese astrology that still enjoys considerable popularity among Chinese communities in many parts of the world today, while the other two methods remain in relative obscurity, known today only to a very few.

Greek, Indian and Iranian influence

The method of *Taiyi* catered mainly to the needs of the Chinese emperor and his bureaucracy. The common people found little use for it. Besides, the system was sometimes regarded as classified knowledge. Similarly, traditional Chinese astrology was also a monopoly of the emperor. It was not supposed to tell very much concerning the fate and destiny of an individual. It is true that since the time of Han there were various methods of fate-calculation based on one or more parameters of the year, month, day and time of one's birth.[35] However, there was nothing more attractive than being able to read one's future destiny from the signs in the heavens. The ancient Chinese must have been secretly envying the privileges of the emperor that extended even to the knowledge and use of astrology.

China had developed its own unique form of astrology independent of outside influence.[36] Then, in the third century, Hindu astrology first arrived in China with a translation of the *Śārdūlakarnā-vādāna* known under the Chinese title *Modengjiajing* 摩登伽經. This was followed during the Western Jin period (250–316) by a Dunhuang translation of a text on the 28 nakshatra bearing the Chinese title *Shetou taizi ershibaxiujing* 舍頭太子二十八宿經. In the year 718 Gautama Siddhärtha was commissioned by the Tang emperor to translate the Hindu calendar *Navagräha* into Chinese. His *Da Tang kaiyuan zhanjing* 大唐開元占經 includes this Hindu calendar as well as the characteristic Hindu imaginary heavenly bodies *Rāhu* (*Luohou* 羅睺) and *Ketu* (*Jidu* 計都). Pingree tells of the introduction of Hellenistic astrology to India about the year AD 269.[37] However, it was not until the eighth century that Hellenistic astrology modified by Hindu culture found its way to China with the arrival of Tantric Buddhism, which was the sect with a special interest in astrology.

The patriarchs Subhakarasimba (Shanwuwei 善無畏) (637–735), Vajrabodhi (Jingangzhi 金剛智) (671–741) and Amoghavajra (Bukong 不空) (705–774) brought Tantric Buddhism to China. The Chinese monk Yixing 一行 (secular name Zhang Sui 張遂) (683–727) befriended Amoghavajra and acquired from him knowledge of Tantric Buddhism and Hindu astrology. He helped in the translation of several Tantric works as well as astrological texts. The most important contribution to astrology in China by Tantric Buddhism was a text with the abbreviated Chinese title *Xiuyaojing* 宿曜經.[38] (No original Hindu title or text can be found.) According to Yano Michio, this text was simply a transliterated record in Chinese of what Amoghavajra either dictated from memory or instructed orally in Sanskrit. It was twice translated into Chinese under the supervision of Amoghavajra, first by Sima Shiyao 司馬史瑤 in the year 759 and later revised by Yang Jingfeng 楊景風 in 764. The Japanese monk Kūkai 空海 (774–834) studied under Huiguo 惠果 (746–805), the disciple and successor of Amoghavajra, and brought home in the year 806 a copy of the *Xiuyaojing* along with

many Buddhist texts. The *Xiuyaojing* is included in the Ming, the Korean as well as the Japanese Daishō edition of the *Tripitaka*.

Before saying anything more about the *Xiuyaojing* one might like to recall that remarkable astronomer, mathematician, astrologer and monk, Yixing.[39] One can read elsewhere on his achievements as one of the greatest astronomers and mathematicians in traditional China. It is sufficient here to go briefly into his part in astrology and divination, of which relatively little is known. The emphasis of Tantrism is on magic and demonology and, as is expected, the vast majority of astrological works found in the Buddhist *Tripitaka* came from this sect. Yixing had previously become a monk of the northern *Chan* 禪 Buddhist sect studying under the celebrated and highly esteemed priest Puji 普寂 (651–739) on the Songshan mountain, in modern Henan province. Tantrism must have had a special appeal to him due to his own interest in astrology and divination. It can be expected that Yixing's name was being quoted in some Buddhist works on astrology and divination. For example, the *Fantian huoluojiuyao* 梵天火羅九曜 (The Paths of the Fire *Rāhu* and the Nine Luminaries across the Heavens) quotes Yixing's calculations of the positions of these heavenly bodies over a period of 257 years from AD 618. Yixing first learned Tantrism from Vajrabodhi and maintained close contact with the three Tantric patriarchs who lived at the site of the Daxingshansi 大興善寺 monastery in the Tang capital Chang'an. Although there is no explicit written evidence to that effect, we can expect him to have been acquainted with the contents of the *Xiuyaojing*. After all, Yixing was a renowned figure in Chinese secular writings on divination and astrology. A notable Ming writer on the subject, Wan Minying 萬民英, quotes an astrological text entitled *Qintang yilan zhujie* 琴堂易覽註解 (Annotations on the Lucid Browsing of Qintang) in his *Xingxue dacheng* 星學大成 (Compendium of Astrology), stating that Qintang or Qingtang heshang 琴堂和尚 became his appellation (within the circle of astrologers) after he attained fame and that he had a disciple by the name Lu Yizhai 呂逸齋.[40] The same compendium quotes elsewhere from Dong Zhongshu 董宗舒, who wrote in the year 1379 that Yixing had produced works on astrology and divination on 12 different schools.[41] It is note-worthy that the content of this Ming compendium is not traditional Chinese astrology but was rather along the same lines as the *Xiuyaojing*, albeit containing far more information. Yixing's biography in the *Jiu Tang shu* mentions his works on the *Taiyi* method and the *Dunjia* method.[42] The Bibliographical Chapters of the *Xin Tang shu* list under him '*Tianyi Taiyijing* 天一太一經 one *juan*, also *Taiyiju Dunjiajing* 太一局遁甲經 one *juan*'.[43] Hence Yixing himself was also knowledgeable in a wide range of traditional Chinese divination and astrology. For example, it is recorded that he had studied and understood the complicated divination system of Yang Xiong's 楊雄 (53 BC–AD 18) *Taixuanjing* 太玄經 (Manual of Grand Obscurity). It is interesting to note that the introduction of the *Xiuyaojing* to China coincided with the time of Yixing.

Yano Michio shows that in the *Xiuyaojing* the 12 zodiac signs were introduced for the first time to China.[44] Like the two imaginary heavenly bodies *Rāhu* and *Ketu*, these signs had their origin in Hellenistic astrology, but were modified in some degree by Hindu astrology after finding their way to India. For example, the male Twin Gemini became a husband-and-wife or male-and-female pair, while the half-human-half-horse Sagittarius holding a bow and arrow became only a single bow. Also, Hindu astrology regards the ram Aries as the first zodiac sign adopted by Hellenistic astrology in AD 300 when Aries was at the Spring Equinox, as shown in Table 3.4. This point is known in Sanskrit as *meşādi*. Today, as we know, due to the precession of the equinoxes this point has already shifted after some 1,700 years to a position somewhere between Pisces and Aries. While in the West the shifting of the equinoctial point has been accounted for, in Hindu astrology the *meşādi* remained unchanged. Thus, Hindu astrology under Greek influence came to China with the *Xiuyaojing*, which contains the zodiac system dating back to about AD 300. However, the *Xiuyaojing* has nothing to say about the basic characteristic of Greek astronomy, namely the 12 houses. It only divided the lunar mansions into seven different groups, depicting disposition or character, such as fierceness, constancy, swiftness, hardness, softness, etc.

It also seems likely that Hellenistic astrology also found its way to China via Persia about the eighth century. The Biographical Chapters of the *Xin Tang shu* (New Official History of the Tang Dynasty) include a book entitled *Duliyusijing* 都聿斯經 in two *juan*s and another entitled *Yusisimenjing* 聿斯四門經 in one *juan*. The term '*Duliyusi*' has no meaning in Chinese and seems like a Chinese transliteration of a foreign term or a proper name. These books attracted the attention of Ishida Mikinosuke 石田幹之助 over half a century ago and were regarded as evidence of Iranian influence on Chinese astrology.[45] Yabuuti Kiyosi later identified the title *Simenjing* (Book of Four Departments) with the *Tetrabiblos* of Claudius Ptolemaeus (fl. c.127–170) and suggested that they were a Syrian version of the original text presented to the Tang emperor by Adam the Nestorian who had adopted the Chinese name Jingjing 景淨.[46] Yano Michio went a step further to suggest that the name Duliyusi was simply the Chinese transliteration of Ptolemaios, after dropping the semi-silent 'P'. Unfortunately the full texts of these two titles are no longer extant. From the remnants we can find some calculations of planetary positions for the horoscope. It will be mentioned later that the introduction of Ptolemaic astrology modified by Iranian culture might have merged with an offshoot of the *Taiyi* system known under the name *Taiyi rendao mingfa* 太乙人道命法. In passing, it is of some interest to note that the titles of Ptolemaic writings are quoted in the secular Ming manual of astrology, the *Xingxue dacheng* 星學大成, as the *Xitian yusijing* 西天聿斯經 and the *Xitian duliyusijing* 西天都例聿斯經.[47] The term '*xitian*' meaning 'Western Heavens', 'Western Astrology', or 'Western Countries' gives full acknowledgement of the Western system of astrology in the content

Table 3.4

Western c. AD 300	(3rd)	(2nd)	(1st)	(12th)	(11th)
	♊	♉	♈ ♦ Spring Equinox	♓	♒
Hindu	(3rd)	(2nd)	(1st)	(12th)	(11th)
	mithuna	*vṛṣa*	*meṣa* ♦ *meṣādi*	*mïna*	*kumbha*
Modern Western	(4th)	(3rd)	(2nd)	(1st)	(12th)
	♋	♊	♉	♈ ♦ Spring Equinox	♓

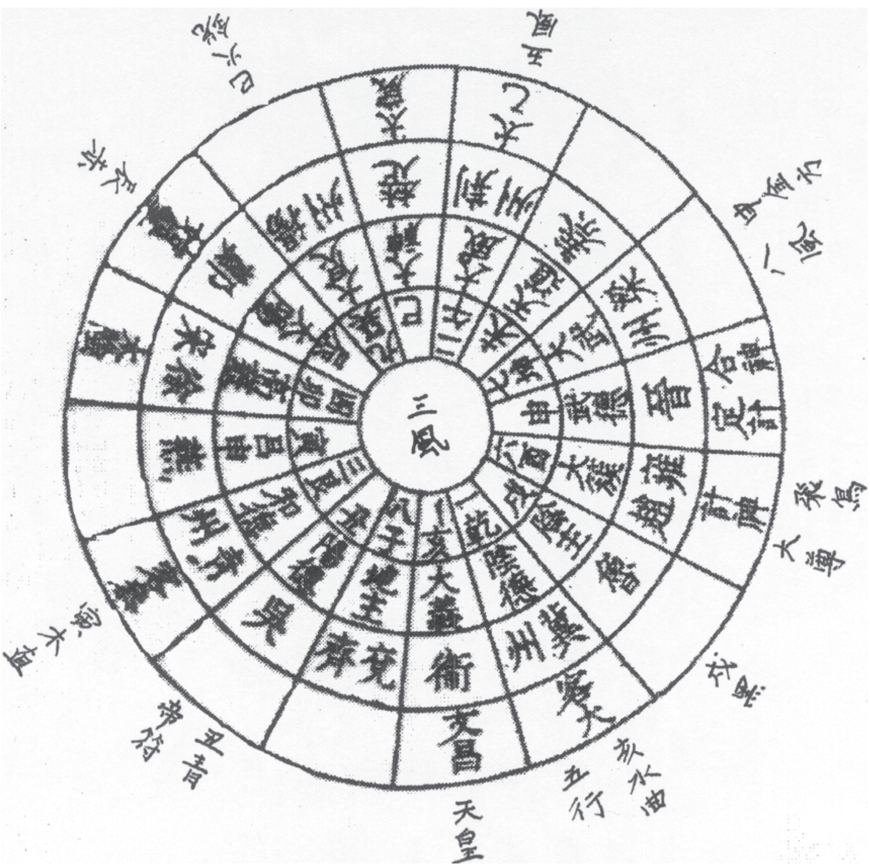


Figure 3.17 Meteorological forecasting with the *Taiyi* method.

of the text. Among the Buddhist writings brought home from Tang China to Japan by the Japanese monk Shūei 宗叡 in the year 865 were the *Duliyusijing* and a fascinating and important astrological manual by Jinjuzha 金俱吒. The latter was the *Qiyao rangzaijue* 七曜禳災决 (Essentials on the Seven Luminaries and the Aversion of Calamities), written around the end of the eighth and the beginning of the ninth century. This work was preserved only in the *Taishō Tripitaka* and appeared to be written originally in Chinese by the brahminical author. It contains elements of Chinese, Hindu, Hellenistic and Babylonian astrology.[48] In Hellenistic astrology the fate and destiny of a person is influenced by the positions of the stars of the heavens on the time of his or her birth, starting from the time of birth at the eastern horizon, with the region above and near the eastern horizon representing one's early life, the region about the meridian representing the period of active life, and the region above and near the Western horizon representing one's later years and demise. At first the sky was divided into four segments but later, at least not after the middle of the second century, Sextos Empeirikos made reference to the division of the sky into 12 segments. In Greek these 12 segments were known as *tópos* (place), in Sanskrit as *gṛha* (house), *bhāva* (condition) and *sthāna* (position), and in English 'house'. The *Qiyao rangzaijue* introduced the 12 houses to China for the first time. (See Figure 3.18 on the 12 houses in the *Qiyao rangzaijue*.) It explains how to calculate the positions of the planets and also mentions the two imaginary heavenly bodies *Rāhu* and *Ketu*. At the same time, it also incorporates some elements of Chinese astronomy by adopting the *Futianli* 符天曆 calendar system made by Cao Shiwei 曹士蔿 in the year 806 and by converting degrees into *du* following the custom of traditional Chinese astronomy which divided the circle into 365 and a quarter *du* instead of 360 degrees.

A system that enabled individuals to read their fate and destiny from the stars, like the one imported from the West, found ready acceptance in traditional China. An early Chinese astrological work containing elements of Hellenistic astrology is the *Zhang Guo xingzong* 張果星宗 (Zhang Guo's School of Astrology) included in the *Gujin tushu jicheng* 古今圖書集成.[49] Both the authorship and date of this text are not known. The edition incorporated in the *Gujin tushu jicheng* includes as an appendix 48 horoscopes of actual persons living in the middle of the fourteenth century produced by a contemporary expert in the art by the name Zheng Xicheng 鄭希誠 (fl. mid-fourteenth century). Different examples of these horoscopes have been reproduced, for example, by Needham (1956), Yano (1986), Richard J. Smith (1991) and Yabuuti (1999).[50] Another example of these horoscopes is shown in Figure 3.19. Zhang Guo 張果 was an adept who lived in the early eighth century and was granted the title *Tongxuan xiansheng* 通玄先生 by the Tang emperor Xuanzong 玄宗, and hence a contemporary of Yixing. However, his life was shrouded in mystery. He was said to have an indefinitely long lifespan. In Chinese folklore he became one of the Eight Holy Immortals



Figure 3.18 Houses in the *Qiyao rangzaijue* from the Taishō *Tripitaka* (#1308) [Vol. 21; p.451].

(*baxian* 八仙). The unknown author of the *Zhang Guo xingzong* could have borrowed his name to add prestige to the book. The name Zhang Guo has also given a Daoist nuance to the book as well as to the kind of astrology it describes. The *Qinding siku quanshu* 欽定四庫全書 incorporates a *Xingming suyuan* 星命溯源 (Astrology in Original Form) associated with a Jurchen writer Yelu Chun 耶律純, said to have learned the Western system of astrology via Korea in the year 984. The names and order of the 12 houses are identical in the *Zhang Guo xingzong* and the *Xingming suyuan*. They are also similar to those in the Japanese horoscope given in Yano's book, with the exception of the 12th house, which the two Chinese books give as Appearance (*xiangmao* 相貌), which is called 'Calamities' in Yano's book.[51] A commentary in the *Gujin tushu jicheng* points out that Yelu Chun's name does not appear in the official history of Liao, the *Liaoshi* 遼史, adding difficulties to the study of the subject.

The *Ziwei doushu* system of astrology

In time to come the Daoists adopted the method described in the *Zhang Guo xingzong*. We find in the Daoist *Tripitaka*, the *Daozang*, a book entitled

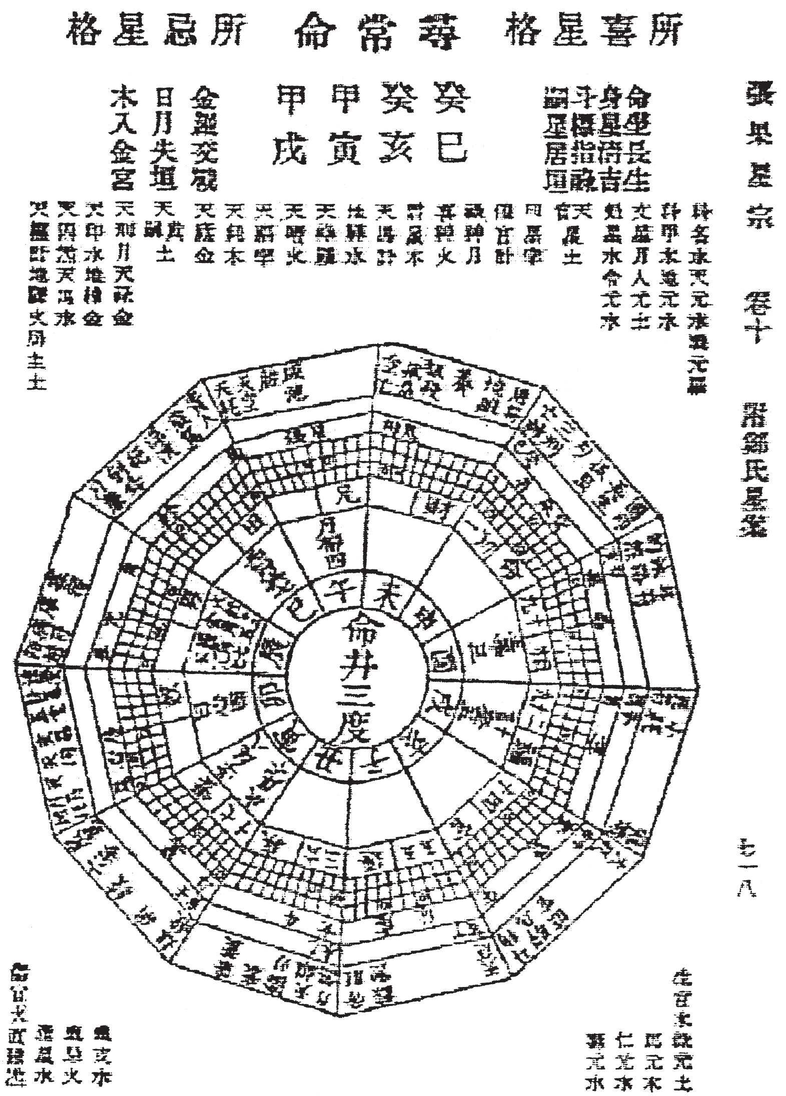


Figure 3.19 A fourteenth-century horoscope from the *Zhengshi xing'an*, an appendix to the *Zhang Guo xingzong*.

Ziwei doushu 紫微斗數 (Numbers According to *Ziwei* and the Plough) which mentions the signs of the zodiac and lists the 12 houses exactly in the same order as the *Zhang Guo xingzong*. It is remarkable that, apart from the name of the 12th house, the order and names of the houses in this version of *Ziwei doushu* are quite similar to those given in the fourteenth-century Ming text *Mingyi tianwenshu* 明譯天文書 (Ming Translation of an

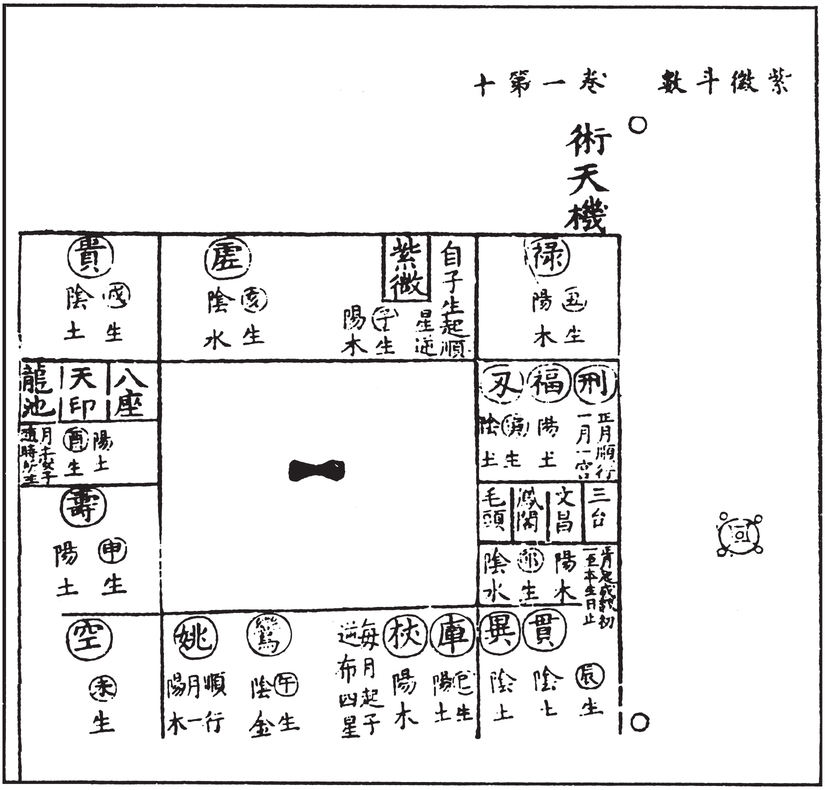


Figure 3.20 A horoscope from *Ziwei doushu* [*Zhengtong daozang* edition].

Astrological Text), which was a Chinese translation of a version of the *Madkal* by the Persian astronomer Kūšyār.[52] It gives further evidence of the link between the *Ziwei doushu* method in the *Daozang* with Ptolemaic astrology via Persia where the *Zhang Guo xingzong*, from which the Daoist text was probably derived, has already acknowledged its Persian source in its own text. We shall refer to the Daoist text as the *Daozang ziwei doushu* 道藏紫微斗數 to distinguish it from the modern *Ziwei doushu* still practised among Chinese societies both within and outside China, as shown in Figure 3.20.[53] Here we find an attempt to merge the Western method of astrology with the traditional Chinese method of fate-calculation. Many of the terms used as well as the basic concepts of fate-calculation are traditional Chinese. It was probably in the Ming period that the term '*Ziwei*' was used for the first time in the context of sinicization of Hellenistic astrology. In Chinese astronomy, *Ziwei* referred to the north circumpolar asterisms while in traditional Chinese astrology it governed events pertaining to the emperor and personalities closely related to him, being reflected in the use

of the term within the Forbidden City. In *Ziwei doushu* this term was rather used in the Daoist sense, referring to its Purple Subtle Deity-Emperor or an unidentified star or asterism in the north circumpolar region. Actually the term '*Ziwei*' in the *Ziwei doushu* conceals the secret of Hindu influence and does not represent a definite star or asterism in the sky. According to the *Daozang Ziwei doushu* it was another name for *Ziqi* 紫炁, one of the four imaginary heavenly bodies in Hindu astrology known to the Chinese as *Siyu* 四餘 (the Four Residuals).[54] This suggests influence also from the *Qiyao ranzaijue* and the *Xiuyaojing* introduced to China by the Indian monks. Astronomically, the *Siyu* were points along the orbit of the moon. The two points of intersection of the lunar orbit and the ecliptic gave rise to the two imaginary bodies *Rāhu* and *Ketu*, and midway between them were the two imaginary bodies *Yuebei* 月孛 and *Ziqi*. The word '*bei*' in *Yuebei* has nothing to do with comets. Attempts were also made to identify the *Ziqi* and the *Yuebei* with existing stars. As if there is not already enough complication concerning the terms *Taiyi* and *Tianyi*, the *Xingxue dacheng* identifies *Ziqi* as the star *Tianyi* categorizing it as *Wood* in the *wuxing* system, and *Yuebei* as the star *Taiyi*, belonging to *Water*.[55] The Four Residuals were incorporated into the Chinese astrological calendar. When the Jesuits took charge of the Chinese Astronomical Bureau they attempted to abolish these four imaginary bodies, regarding them as serving no useful purpose, but succeeded in getting rid of only *Ziqi* and *Yuebei*. Nevertheless, when the Jesuits lost control of the Astronomical Bureau these two imaginary bodies were restored in the Chinese astrological calendar. Let us use the same data for the subject's year, month, day and time of birth given in Figure 3.19 to recast his horoscope, resulting in Figure 3.21a by means of a version of the modern *Ziwei doushu* system of astrology.[56]

Significant differences in the order of the houses can be detected between the *Zhang Guo xingzong* method inherited by the *Daozang ziwei doushu*, and the modern form of *Ziwei doushu*. More importantly, apart from the first house of Life, the order of the 12 houses is different in the two versions, although the names of the houses are essentially similar except for one or two minor changes. The differences in both the order and the positions of the houses are noticeable when Figure 3.19 is compared with Figure 3.21a. This provides further evidence on the divergence between the modern system and that with closer links to its Indian and Persian sources. Another striking difference is the presence of the 'Four Residuals' in the fourteenth-century horoscope, namely *Rāhu* at *chen*, *Ketu* at *xu*, *Ziqi* at *si* and *Yuebei* at *yin*, while they are not noticeable in the horoscope derived from the modern *Ziwei doushu* version. A comparison table of the houses and their order for the different sources is shown in Table 3.5. There are other subtle differences between the *Daozang* version and the modern versions of *Ziwei doushu*. For example, categorized under *Yang Wood* in the *Daozang* version, *Ziwei* is *Yin Earth* in the modern form, while *Wenchang* has also changed from *Yang Wood* to *Yang Metal*.



Figure 3.21a Recasting of horoscope in Figure 3.19 by the author using a modern *Ziwei doushu* method.

Surprisingly, the *sanshi* system of *Taiyi* seems to have played an unlikely role in the development of the modern form of *Ziwei doushu* astrology. We find in the *Gujin tushu jicheng* a work entitled *Taiyi rendao mingfa* 太乙人道命法 (*Taiyi* Method of Calculating Human Fate), of unknown authorship and date but bearing a Foreword dated between the years 1604 and 1684.[57] This work was reprinted together with works on the *Taiyi* method in the same collection under a common title *Taiyi shenshu* 太乙神數 (The Wonderful Numbers of *Taiyi*) in Taipei in 1975. It appears like an attempt to absorb the imported system of astrology into the *Taiyi* cosmic board method, but without the use of the *Taiyi* calendar for dates and the occurrence of terms like *Wenchang*, *Shiji*, *Jishen*, *Zhudajiang*, *Kedajiang*, *Zhuxiaojiang*, and *Kexiaojiang*, that are found in the *Taiyi* method and also terms in the *Shiji Taiyi* system. *Taiyi* appeared in various forms. As

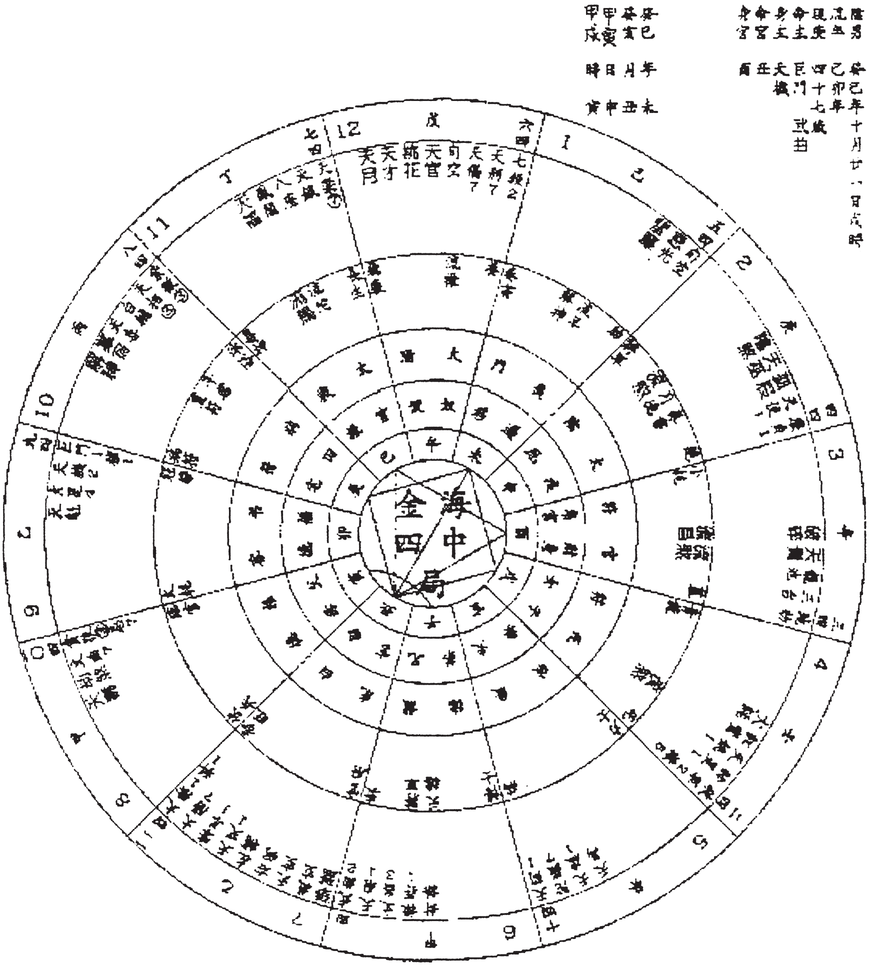


Figure 3.21b Recasting of the same horoscope by a practitioner in Taiwan using another version of the *Ziwei doushu* method.

Wufu Taiyi 五福太乙 the deity would be found within Palace One in the *jiazi* year of a Superior Epoch and would move to the next palace in ascending order after 45 years. Then came the *Dayou Taiyi* 大遊太乙, the *Junji Taiyi* 君基太乙, the *Chenji Taiyi* 臣基太乙 and the *Minji Taiyi* 民基太乙 that started from a different palace and remained in a palace for a different period of time. A significant change was the *Sishen Taiyi* 十神太乙 who moved not only within Nine Palaces but also three others: *Jianggong* 絳宮 (Scarlet Hall), *Mingtang* 明堂 (Hall of Brightness) and *Yutang* 玉堂 (Hall of Jade) by name, making a total of 12 palaces in all.[58] There were also the deities *Tianyi* 天乙, *Diyi* 地乙 and *Zhifu* 直符 who moved about in the

Table 3.5

Order of House	*Western*	*Hindu*	*Iran*	Qiyao	ZG/Dzang	Taiyi	Ziwei
1st	Life/Body	Body	Life	Life	Life	Life	Life
2nd	Wealth	Wealth	Wealth	Wealth	Wealth	Brother	Brother
3rd	Brother	Brother	Brother	Brother	Brother	Spouse	Spouse
4th	Parents	Friend	Home	Properties	Properties	Offspring	Children
5th	Children	Children	Offspring	Man/Woman	Man/Woman	Wealth	Wealth
6th	Servant/Illness/Enemy	Enemy	Sick person	Servant	Servant	Farm/House	Illness/Danger
7th	Marriage	Wife	Bride/ Bridegroom	Wife/Concubine	Wife/Concubine	Civil post/ Salary	Migration
8th	Death	Death	Dead person	Illness/Danger	Illness/Danger	Servant	Friend
9th	Friendship/Travel	Law	Traveller	Migration	Migration	Illness/Danger	Civil post/Salary
10th	Reputation/Position	Action/Power	Mid-heaven	Official rank	Civil post/Salary	Fortune	Farm/House
11th	Friend/Welfare	Things caught	Bliss	Fortune	Fortune	Appearance	Fortune
12th	Loss	Misfortune	Misfortune	Poverty/Disaster	Appearance	Parents	Parents

Note: *Qiyao = Qiyao rangzaijue* *ZG = Zhang Guo xingzong* *Dzang = Daozang Ziwei doushu*
Taiyi = Taiyi rendao mingfa *Ziwei = modern Ziwei doushu*

12 palaces. The introduction of the 12 palaces later facilitated the assimilation of the Hellenistic 12 houses into the Chinese system. The 12 houses here are in a different order from those used in the *Zhang Guo xingzong* and the *Daozang Ziwei doushu*, although the names of the houses remain almost identical. However, seven of the 12 houses are in the same order as those in the modern *Ziwei doushu* astrology and 10 of the houses among them bear the same names. 'Friend' replaces the ninth house 'Servant' in the *Taiyo rendao mingfa* in modern *Ziwei doushu*. The 11th house 'Appearance' and the 12th house 'Parents' have merged into the 12th house 'Parents' in modern *Ziwei doushu*, which has added the seventh house 'Migration'. Lack of documentation in a field of study of this nature renders it difficult to trace the date of origin. Perhaps this offshoot of the *Taiyi* system was stimulated by the impact of Western astrology brought by the Nestorians from Persia in the eighth century. From this the modern *Ziwei doushu*, which has stronger Iranian links than Indian than the *Daozang* version, was derived. Figure 3.22 shows the likely routes of transmission for the *Ziwei doushu* systems, both *Daozang* and modern.

The *Taiyi rendao mingfa* makes use of 16 deities (*shiliu shen* 十六神) six of which are identical in name but not in function as those used in the traditional *Taiyi* method. All these deities are said to possess the attribute of transforming themselves into 'stars'. Seven of the deities have direct

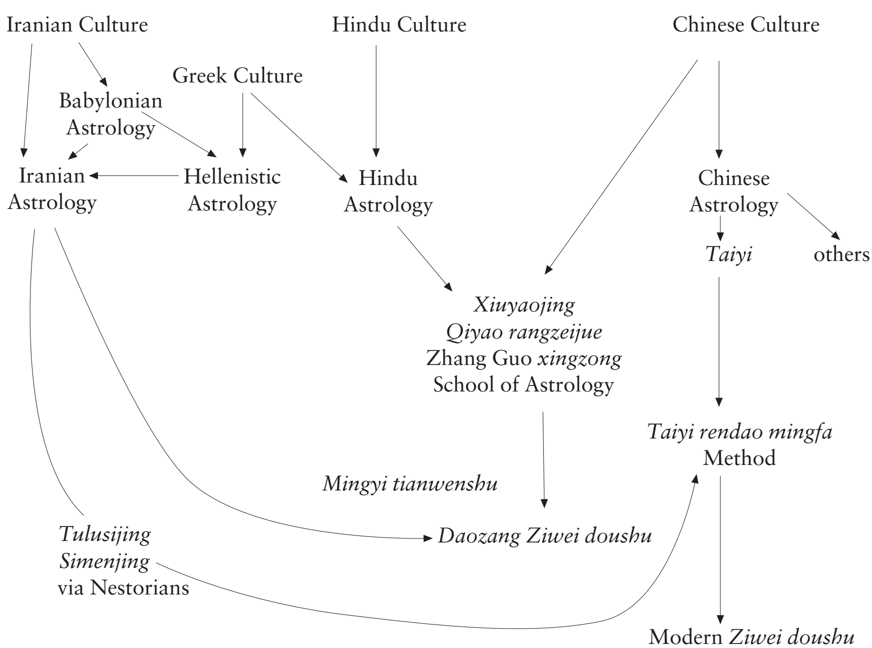


Figure 3.22 Transmission of the *Ziwei doushu* system of astrology.

connection with the name *Taiyi*; one of them, the *Junji Taiyi* (Sovereign-Base *Taiyi*), can transform into the 'star' *Ziwei*. Hence we find here another interpretation for the term *Ziwei* and another link between the *Taiyi rendao mingfa* and modern *Ziwei doushu* astrology. *Ziwei* is categorized both as *Earth* in the *Taiyu rendao mingfa* and in the modern *Ziwei doushu*, but as *Wood* in the *Daozang ziwei doushu*, again showing that the modern *Ziwei doushu* is more closely connected with the method in the *Taiyi rendao mingshu* than that in the *Daozang*. There are some terms that are identical in the *Taiyi rendao mingfa* and the modern *Ziwei doushu*, but it is difficult to find identity of common attributes among deities with common names.

Modern Western astrology originated from Greece and Babylon but has come a very long way since the time of Ptolemy. For a long period it was confronted by the question of free will posed by the church. In the nineteenth century it came, especially in North America, under the influence of theosophy and the Rosicrucians and it took on a new direction which aimed to integrate science, religion and philosophy and at the same time to avoid facing the controversy of free will. There is a parallel case in China, where Hellenistic astrology containing elements of Babylonian origin arrived from the eighth century through India and Persia, modified along its way by Hindu and Iranian cultures. Foreign cultures were gradually absorbed into Chinese culture until the origin can hardly be identified. As a general rule, the further back we go towards the eighth century the more easily we can identify imported elements of Hellenistic astrology in Chinese writings. Hence, in the modern *Ziwei doushu* method of astrology one does not easily find traces of foreign influence at first sight. For example, it is only in a remark made in a modern text that one finds a statement explaining that the *Huaji* 化忌 'star' was actually *Ketu*, while categorizing it under *ren Water*.[59] What was traditionally Chinese was also subjected to change. For example, *Ziwei* itself, previously categorized as *Yin Earth* in the *Taiyi rendao xingzong*, is now regarded as *Yang Earth*. As a 'living' system in current use, continuous process of evolution is to be expected.

4

QIMEN DUNJIA

Strange Gates Escaping Techniques

The rendering of the term '*Qimen Dunjia* 奇門遁甲' as 'Strange Gates Escaping Techniques' in the chapter title does not represent its true meaning, but rather the impression it gives to the ordinary Chinese reader, who regards it as some arcane knowledge beyond one's reach. '*Qimen* 奇門' has come down to be referred to, for example in colloquial Cantonese, as '*guguai* 古怪' – something strange or weird – while '*Dunjia* 遁甲' conveys the sense of some sort of mysterious disappearing art. The word '*jia* 甲', when taken to mean 'armour', also suggests some connection with the army. However, it is not easy to find a suitable word or phrase in the English language that would express the full meaning of the term *Qimen Dunjia*. The name *Dunjia* included various methods for different purposes and accordingly it had various meanings. In Chinese novels it conjured up the idea of some form of mystic arts of teleportation such as those which enabled Dai Zong 戴宗 in the *Shuihuzhuan* 水滸傳 (Water Margin) to walk with extraordinarily high speed, and what Zuo Ci 左慈 in the *Sanguo yanyi* 三國演義 (Romance of the Three Kingdoms) tells Cao Cao 曹操 about his mastery of the art of *Dunjia*, enabling him to move at will above and below the earth and among men. Here the word '*dun* 遁' conveys the popularly accepted sense of 'running' or 'escape' or 'hiding'. *Dunjia* is first mentioned in the *Hou Han shu* 後漢書 (Official History of the Later Han Dynasty) together with a list of methods of divination.[1] Here we find the biography of Gao Huo 高獲 who advised the Prefect Bao Yu 鮑昱 on rain-making, and the biography of Zhao Yan 趙彥 who helped to repel and defeat an attack by bandits with his skill in the art of *Dunjia*. However, we are told nothing more about the art itself. *Dunjia* is next described in Ge Hong's 葛洪 (283?–343) *Baopuzi neipian* 抱朴子內篇 which states that the author read many books on the art at the private library of his teacher Zheng Yin 鄭隱 before the latter became a recluse in the year 302. The books would have to have been written before then. Some of them could have been written during the Han period. However, the *Baopuzi neipian* does not tell us whether *Dunjia* was a magical art of escape or hiding. Instead, it mentions probably only one aspect of the art in the use of *Dunjia* to select the auspicious days to enter the mountain searching for elixir plants and minerals. The word '*dun*' would

have the meaning of 'to calculate'. Ge Hong also refers to the use of a talisman and invoking the name of the deity on daily duty in time of danger. This can be found in the Daoist tradition of *Dunjia*, such as is described in the *Huangting Dunjia yuanshenjing* 黃庭遁甲緣身經 quoted in the *Yunji qiqian* 雲笈七籤 (Seven Tablets of the Cloudy Satchels) of c.1025. However, this form of *Dunjia* differs from that included in the three cosmic board systems. Strictly speaking, in the sense of the *Baopuzi neipian* the word '*dun*' would take one of the two forms '遁' and '遯', and *Dunjia* could be written as either '遁甲' or '遯甲'. However, the two forms seemed to have been used indiscriminately so it is difficult to tell from the words whether a particular art refers to some escaping technique or a form of calculation. In the past *Dunjia* was also known as *Xunjia* 循甲.[2]

The emperor Chen Wudi 陳武帝 (reigned 557–559) was himself acquainted with the art of *Dunjia* and had later obtained the services of Wu Mingche 吳明徹, another exponent of the art.[3] The sixth-century astronomer and commentator of the *Zhoubi suanjing* 周髀算經, Xindu Fang 信都芳, wrote a book on *Dunjia*, entitled *Dunjia jing* 遁甲經 (*Dunjia* Manual).[4] Another book bearing the title *Dunjia lu* 遁甲錄 (*Dunjia* Records) in ten *juan*s was written by a contemporary, Lin Xiaogong 臨孝恭.[5] In the *Beishi* 北史 (Official History of the Northern Dynasties) we also read about Shu Renliang 庶人諒 claiming expertise in the art of *Dunjia*.[6] However, being no longer extant, we have no means to find out the type of *Dunjia* referred to in books written before the eighth century.

One form of *Dunjia* was made the official method by being included in the three cosmic board systems and used in the Astronomical Bureau examinations in Song China. This was the *Qimen Dunjia* 奇門遁甲 system. The word '*qi* 奇' (Distinguished-Ones) refers to the three stems *yi* 乙, *bing* 丙 and *ding* 丁, which are known as *riqi* 日奇 (Sun Distinguished-One), *yueqi* 月奇 (Moon Distinguished-One) and *xingqi* 星奇 (Star Distinguished-One). 'Men 門' (Gates) refers to the three auspicious Gates, *kai* 開 (Admission), *xiu* 休 (Rest) and *sheng* 生 (Life) among the Eight Gates. '*Dunjia*' in this instance means 'concealing the *Wood jia* stem' within the six stems of *wu*, *ji*, *geng*, *xin*, *ren* and *gui* to guard it against domination by the stem *Metal geng*. *Qimen Dunjia* would thus mean '(aligning) the Distinguished-Ones and the (auspicious) Gates (together with) concealing the (*Wood*) *jia* stem'. It is less cumbersome to retain the original term rather than attempt to translate it. In the *Baopuzi neipian*, *Qimen* and *Dunjia* are mentioned separately, referring to two different things, but there were those who regarded the two as synonymous. We shall confine our attention mainly to the *Qimen Dunjia* system.

In a verse entitled '*cong jun hang* 從軍行' (with the army song) by the Liang emperor Jianwendi 簡文帝, in the *Yuefu shiji* 樂府詩集, is a line 'three Gates correspond to *Dunjia*' (*san men ying Dunjia* 三門應遁甲) that refers *Dunjia* to military use, although we cannot be certain that *Dunjia* here meant *Qimen Dunjia*.[7] The bibliographical section of the *Suishu* 隋書

(Official History of the Sui Dynasty) lists over 50 titles of works on *Dunjia* besides mentioning some titles of the Northern and Southern Dynasties period (479–581); that of the *Jiu Tang shu* 舊唐書 (Old Official History of the Tang Dynasty) has 10 titles, and the *Xin Tang shu* 新唐書 (New Official History of the Tang Dynasty) has over 20 titles. However, all the titles are no longer extant so they cannot tell us anything on the *Qimen Dunjia*. The *Taiping guangji* 太平廣記 contains an account of Jia Dan 賈耽 (729–805) and the manipulation of a cosmic board. Yan Dunjie interprets the procedure as the system of the *Qimen Dunjia*, meaning that at least by the eighth century *Qimen Dunjia* was known in China.

Unlike other forms of *Dunjia*, the *Qimen Dunjia* makes use of the cosmic boards. The emperor Renzong 仁宗 (reigned 1023–1063) of the Northern Song Dynasty ordered a member of the Astronomical Bureau, Yang Weide 楊惟德, to write the *Jingyou Dunjia fuyingjing* 景祐遁甲符應經 as well as the section on *Qimen Dunjia*, entitled *Dunjia fa* 遁甲法, to be incorporated into Zeng Gongliang's 曾公亮 military compendium *Wujing zongyao haoji* 武經總要後集.[8] The *Dunjia* section in Mao Yuanyi's 茅元儀 treatise on armaments, the *Wubeizhi* 武備志, was based on Yang Weide's contributions. These are the basic texts available to us for the study of the *Qimen Dunjia* method.

An arcane military manual: the *Huangdi yinfujing* 黃帝陰符經 (The Yellow Emperor's Secret Military Warrant Manual)

Partly because of its use in the military, the system of *Qimen Dunjia* was a guarded secret and was known only by name to a very few. Texts describing the system are often quite incomprehensible except to those who understand the system: we shall use an arcane text to explain it. There appeared in traditional China, probably since the time of Song, an arcane military manual known as the *Huangdi yinfujing* (The Yellow Emperor's Secret Military Warrant Manual). Yinfu 陰符 (secret tally), according to a military text entitled *Liutao* 六韜 (Six Strategies) and attributed to Jiang Shang 姜尚 in the eleventh century BC, refers to the tallies of various specified lengths used between the emperor and his generals for confidential communication. For example, the tally used to report a conquest in war had a length of one Chinese foot, that to report a victory in battle had a length of nine Chinese inches, that for reporting the occupation of an enemy city was eight Chinese inches long, and so on.[9] There is also a *Yinfujing* 陰符經 with more than 40 different annotations, some of which are attributed to great military strategists of the past, such as Jiang Shang 姜尚 of the eleventh century BC, Zhang Liang 張良 of the third century BC, Zhuge Liang 諸葛亮 of the third and Li Quan 李筌 of the eighth century, and others including philosophers, Daoists and alchemists. It differs in substance from the *Huangdi yinfujing* that we are concerned with. The *Huangdi yinfujing* here is also entirely different both in nature and in content from a host of Daoist texts in the

Daoist *Tripitaka*, the *Daozang* 道藏, that bear the same title. It also differs in content from the *Siku quanshu* edition of a military text that goes by the name *Taibai yinfujing* 太白陰符經 (Secret Warrant Military Manual), known also as *Taibai yinjing* 太白陰經 (Secret Military Manual) and *Shenji zhidi Taibai yinjing* 神機制敵太白陰經 (Secret Military Manual with Marvellous Strategies to Defeat the Enemy), which contains only eight of the 10 *juan*s written by the Tang military strategist Li Quan. According to the Bibliographies Chapters in both the official dynastic histories of the Tang and the Song dynasties, Li Quan's work consisted of 10 *juan*s, but what is now extant consists of only eight. Yu Zhengxie 俞正燮 (1775–1840) in his *Guisi leigao* 癸巳類稿 (Classified Notes in the *Guisi* Year) suggested that the missing *juan* 9 of Li Quan's military manual should be the section on *Qimen Dunjia*. In fact, both *juan* 9 and *juan* 10 are included in the *Zhibuzuzhai congshu* 知不足齋叢書 edition of Li Quan's work. *Juan* 9 and the *Huangdi yinfujing* are partly similar in content but differ in style, the former being in prose and the latter in verse. This is also evidence to show that the method of *Qimen Dunjia* was already known in the late eighth century. The *Daozang* has been referred to above in passing, but we cannot let matters rest here without mentioning that Li Quan was criticized for using the term '*yinfujing*' without discretion, in the preface of a contemporary Daoist work that also carried the same title *Huangdi yinfujing*, but deals with Daoist philosophy instead.[10] It is interesting to note that Li Quan himself was reputed to be a Daoist.

The text of the *Huangdi yinfujing* that we now have was incorporated by the Ming writer Cheng Daosheng 程道生 in the *Dunjia yanyi* 遁甲演義 found in the *Qinding siku quanshu* 欽定四庫全書. The date of this manual was definitely not later than the seventeenth century and it could be the eighth century according to the suggestion of Yu Zhengxie. The authorship of the book is attributed from its title to the legendary Yellow Emperor. According to legend, when the Yellow Emperor was engaged in a battle with Chi You 蚩尤, he was taught some secret military art by the goddess Xuannu 玄女 in a dream. After winning the battle he instructed his minister Feng Hou 風后 to formulate what he had learned into the secret military art of *Qimen Dunjia*. There was also a claim that this secret art was employed successfully at least on two other important occasions – by Jiang Shang to defeat the last Yin king in the eleventh century BC and by Zhang Liang in the third century BC to help Liu Bang 劉邦 establish the Han dynasty. Both the title and the *Qimen Dunjia* method it describes suggest a very close connection between the above legend and the *Huangdi yinfujing*. The question of the dating of the text will be discussed after a study is made on the text itself.

The text of the *Huangdi yinfujing* is quite incomprehensible to those without the knowledge of the *Qimen Dunjia* method. However, a study of the text will show that it was a rather important handbook that the author purposely wrote in an incomprehensible way to make it useful only to those

in the Astronomical Bureau and to selected military officers and advisors. Hence, in traditional China, the *Huangdi yinfujing* was shrouded in mystery to all but a very few. The fourteenth-century novelist Luo Guanzhong 羅貫中 has contributed to the mystification of the *Qimen Dunjia* method among his readers in his *Sanguo yanyi* (Romance of the Three Kingdoms) by his stories about Zhuge Liang.[11]

Translation of the *Huangdi yinfujing*

The full text of the *Huangdi yinfujing* contains only 602 Chinese characters, grouped in 86 rhymed clauses or phrases of seven characters each. It bears certain similarities to a longer but also undated text entitled *Yanbo diaosouge* 煙波釣叟歌 (Song of the Yanbo Elderly Fisherman). Also known as *Yanbo diaosoufu* 煙波釣叟賦, it is incorporated together with the *Huangdi yinfujing* in Cheng Daosheng's 程道生 *Dunjia yanyi*. It is more than double the length of the *Huangdi yinfujing* but contains some traces of other varieties of *Liuren* 六壬 method. The *Huangdi yinfujing* is selected here for the 'purity' in its contents on the *Qimen Dunjia* method. The *Huangdi yinfujing* is divided into 84 numbered clauses or phrases and is translated below with annotations and clarifications. (Figure 4.1 shows the text from the *Siku quanshu* edition.)

(1) The mystery of how *Yin* and *Yang* move in the ascending or the descending order is difficult to comprehend.

The *Qimen Dunjia* system employs a *Yin (dun)* 陰遁 and a *Yang (dun)* 陽遁 order of movement. *Yangdun* is ascending and *Yindun* is descending.

(2) The two solstices indicate the way back to the numbers 1 to 9 in the Nine Palaces (*jiugong*) (magic square).

After winter solstice use the ascending order *Yangdun* and move among the *jiugong* magic square numbers following the sequence order 1, 2, 3, . . . 8, 9, 1 . . . , while after summer solstice use the descending order *Yindun* and move among the *jiugong* following the sequence 9, 8, 7, . . . 2, 1, 9, . . .

(3) When one comes to understand the 'pattern' (*li*) of *Yin* and *Yang*,

Identical lines to (1) to (4) are found in the *Yanbo diaosouge*. A commentary in the latter adopts Zhu Xi's 朱熹 interpretation for the term *li*.

(4) Heaven and Earth will all come within one's grasp.

A commentary in the *Yanbo diaosouge* says that one equals *li*, two *Yin* and *Yang*, three *sancai*, the Three Powers, four the Four Symbols (in the *Yijing*), five the *wuxing*, six the *Liujia* (six members in the sexagenary cycle beginning with the stem *jia*), seven the Seven Luminaries, eight the Eight Trigrams and nine the Nine Stars of the Plough. All these are within one's grasp.

(5) The Three Powers (*sancai* – Heaven, Earth and Human Being) transforms into the Three Epochs (*sanyuan*).

Here the Three Epochs refer to the division of the 24 fortnightly periods into the Upper Epoch (*Shangyuan* 上元), Middle Epoch (*Zhongyuan* 中元) and Lower Epoch (*Xiayuan* 下元) by calendar and *shushu* 術數 experts. Each Epoch is again sub-divided into three sets (*ju* 局 or *hou* 候).

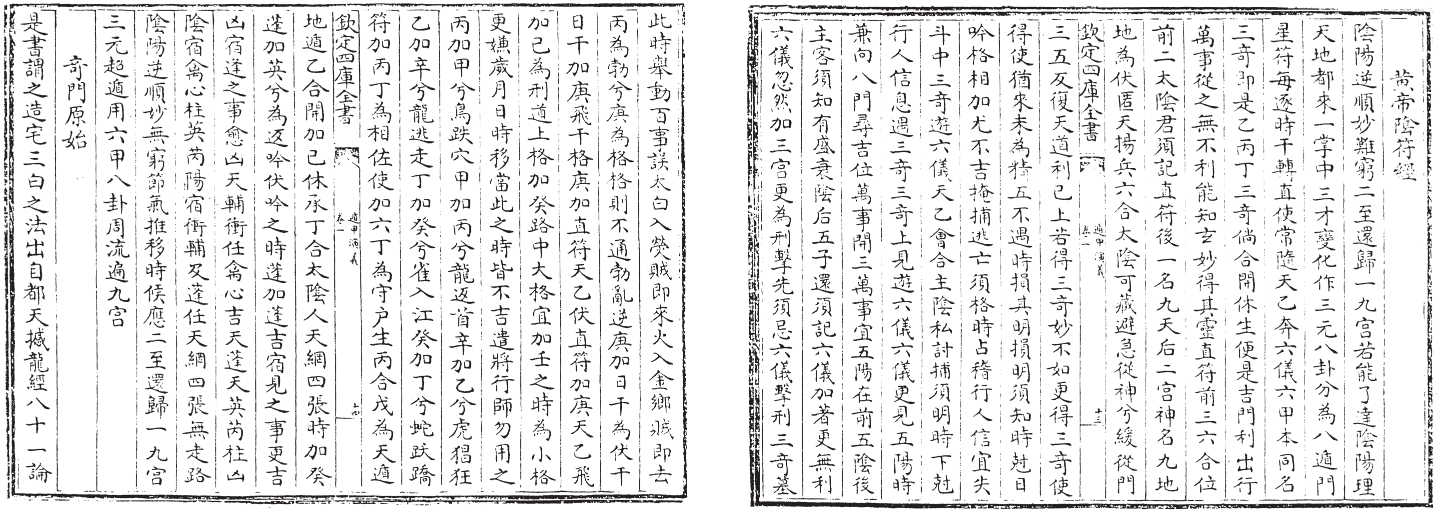

黃帝陰符經
陰陽逆順妙難窮二至還歸一九宮若能了達陰陽理
天地都來一掌中三才變化作三元八卦分為八遁門
星符每逐時干轉直使常隨天乙奔六儀六甲本同名
三奇即是乙丙丁三奇倘合開休生便是吉門利出行
萬事從之無不利能知玄妙得其靈直符前三六合位
前二太陰君須記直符後一名九天后二宮神名九地
地為伏匿天揚兵六合太陰可藏避急從神兮緩從門
欽定四庫全書 遁甲演義 卷一 十三
三五反復天道利己上若得三奇妙不如更得三奇使
得使猶來未為精五不遇時損其明損明須知時尅日
吟格相加尤不吉掩捕逃亡須格時占稽行人信宜失
斗中三奇遊六儀天乙會合主陰私討捕須明時下尅
行人信息遇三奇三奇上見遊六儀六儀更見五陽時
兼向八門尋吉位萬事開三萬事宜五陽在前五陰後
主客須知有盛衰陰后五子還須記六儀加著更無利
六儀忽然加三宮更為刑擊先須忌六儀擊刑三奇墓
此時舉動百事誤太白入熒賊即來火入金鄉賊即去
丙為勃兮庚為格格則不通勃亂逆庚加日干為伏干
日干加庚飛干格庚加直符天乙伏直符加庚天乙飛
加己為刑道上格加癸路中大格宜加壬之時為小格
更嫌歲月日時移當此之時皆不吉遣將行師勿用之
丙加甲兮鳥跌穴甲加丙兮龍返首辛加乙兮虎猖狂
乙加辛兮龍逃走丁加癸兮雀入江癸加丁兮蛇跌蹻
符加丙丁為相佐使加六丁為守戶生丙合戊為天遁
欽定四庫全書 遁甲演義 卷一 十四
地遁乙合開加己休承丁合太陰人天網四張時加癸
蓬加英兮為返吟伏吟之時蓬加蓬吉宿見之事更吉
凶宿逢之事愈凶天輔衝任禽心吉天蓬天英芮柱凶
陰宿禽心柱英芮陽宿衝輔及蓬任天網四張無走路
陰陽逆順妙無窮節氣推移時候應二至還歸一九宮
三元超遁用六甲八卦周流遍九宮
奇門原始
是書謂之造宅三白之法出自都天撼龍經八十一論

Figure 4.1 Huangdi yinfujing text from *Dunjia yanyi*, ch. 1; pp.13–14 [*Qinding siku quanshu* edition].

(6) The Eight Trigrams divide into the Eight Gates of *Dun* [*jia*].

The Eight Gates are *du* 杜 (Rejection), *jing* 景 (View), *si* 死 (Death), *jing* 驚 (Fright), *kai* 開 (Admission), *xiu* 休 (Rest), *sheng* 生 (Life), and *shang* 傷 (Injury)].

(7) The [Nine] Stars [of Beidou, the Plough] and the Duty-Warrant Officer (*zhifu*) [on the heaven board] rotate in accordance to the stem radical of the double-hour.

The Nine Stars (jiuxing 九星) of the Plough are Tianpeng 天蓬 (Celestial Vagabond), Tianrui 天芮 (Celestial Budding), Tianchong 天衝 (Celestial Clash), Tianfu 天輔 (Celestial Supporter), Tianqin 天禽 (Celestial Bird), Tianxin 天心 (Celestial Heart), Tianzhu 天柱 (Celestial Pillar), Tianren 天任 (Celestial Responsibility), and Tianying 天英 (Celestial Elegance). *Zhifu* is the *jia* stem of a sexagenary cyclic number immediately before the double-hour cyclic number known as the *xunshou* 旬首. Its position on the heaven board is therefore governed by the stem of the double-hour.

(8) The Duty-Messenger (*zhishi*) always follows the movement of *Tianyi*.

Tianyi is another name for *Zhifu*. *Zhishi* is the branch of the *xunshou*. It also moves following the movement of *Zhifu* (but of its own accord without being dictated by the latter).

(9) The Six Outward-Forms (*Liuyi*) are homonyms of the six *jia*s (*Liujia*).

The six stems *wu*, *ji*, *geng*, *xin*, *ren* and *gui*, known as *Liuyi* 六儀 or *Liujia* 六甲, are the six sexagenary cyclic numbers *jiazi*, *jiaxu*, *jiashen*, *jiawu*, *jiachen* and *jiayin* respectively.

(10) The Three Distinguished-Ones (*sanqi*) are the (three) stems *yi*, *bing* and *ding*.

The three stems *yi*, *bing* and *ding* were known as the Three Distinguished-Ones, also called Sun Distinguished-One (*riqi* 日奇), Moon Distinguished-One (*yueqi* 月奇) and Star Distinguished-One (*xingqi* 星奇) respectively.

(11) Whenever [one of] the Three Distinguished-Ones meets [one of the Three Auspicious Gates] *kai*, *xiu* and *sheng*,

Admission, Rest and Life are the three auspicious Gates. *Qimen* 奇門 refers to the meeting of the Distinguished-Ones with the three auspicious Gates.

(12) That is the Auspicious Gate favouring to those going out [in its direction].

The Gate where such meeting takes place indicates the auspicious direction for military action.

(13) No harm will come one's way if one follows this direction in all matters.

This is also a safe direction relating to all matters.

(14) Knowing the secret [of the art of *Qimen Dunjia*] one can gain much subtle knowledge from its signs.

Knowing the above fundamentals one can proceed to learn the more subtle points regarding the system.

(15) The third position in front of the Duty-Warrant Officer (*Zhifu*) is occupied by the Six-Encompassing-Agent (*Liuhe*).

Three palaces from *Zhifu*, i.e. with a separation of two palaces, is the position for *Liuhe* (the direction being dependent on whether the *Yangdun* or the *Yindun* is in operation). Here the text refers to *Yangdun* movement and 'in front' refers to clockwise direction.

(16) One should be reminded that the second position in front [of the Duty-Warrant Officer] is occupied by Ultimate-*Yin* (*Taiyin*).

Taiyin is found two palaces from *Zhifu*, i.e. separated by one palace, (and again the direction depends on whether *Yangdun* or *Yindun* is in operation). The text refers to clockwise direction.

(17) One position immediately behind the Duty-Warrant Officer is Nine-Heavens (*Jiutian*).

Jiutian is next to *Zhifu* (the direction being dependent on whether the *Yangdun* or the *Yindun* is in operation). 'Behind' here refers to the anticlockwise direction. The Palace next to *Zhifu* in the anticlockwise direction is *Jiutian*.

(18) The name of the spirit (*shen*) in the second Palace behind [the Duty-Warrant Officer] is Nine-Earths (*Jiudi*).

Then next to *Jiutian* is *Jiudi*.

(19) [*Jiu*] *di* [is the position] for hiding [in ambush] or concealing; [*Jiu*] *tian* [is the position] for bringing out the soldiers.

Jiudi is an ideal position for hiding or laying an ambush, while *Jiutian* is for showing one's military power.

(20) *Liuhe* and *Taiyin* are suitable [positions] to hide [from the enemy].

Liuhe and *Taiyin* are favourable positions to conceal one's forces from the enemy.

(21) In emergency follow [the directions indicated by] the spirits [of *Jiutian*, *Jiudi*, *Taiyin* and *Liuhe*], otherwise follow the [directions indicated by the auspicious] Gates.

For matters demanding an urgent decision follow the indications of the 'Deception Gates'; for matters not requiring an immediate decision follow the indications of the Gates (and the Nine Stars).

(22) The way of Nature enables the successive recurrence of the Three's and Five's.

In the relation between the stems of the day and the double-hour, note that a stem with its third stem in the ten stems cycle is always auspicious, while one with its fifth stem is always ominous. For example, *jia Wood* and *bing Fire* is auspicious because *Wood* generates *Fire*, but *jia Wood* and its fifth stem *wu Earth* is ominous because it subjugates the latter.

(23) A Distinguished-One appearing above [the stem] *ji* is a good [sign], *yi*, *bing* or *ding* appearing together with *ji* is auspicious. Of these, *yi* and *ji* give the best combination.

(24) And it would be better still if this is accompanied by a Messenger (*shi*) of the Distinguished-One.

It is better still to have *yi* with its Messenger *ji* or *xin*, *bing* with *wu* or *geng*, or *ding* with *ren* or *gui*.

(25) [However,] knowing only the Messenger alone does not give one sufficient expertise [in the art of *Qimen Dunjia*].

(To be sufficiently expert one should also take account of the relations between the stems of the days and the double-hour as given below.)

(26) It is undesirable for the stem [of a day-cycle] to encounter a double-hour cycle [whose stem] is five places away, lest its lustre might be tarnished.

When the stem of the day comes in contact with the stem of the double-hour separated from it by five stems, for example *jia Wood* and *geng Metal*, the day would be subjugated and hence it would lose its lustre.

(27) We should know that lustre is tarnished when the [stem of the] double-hour subjugates the [stem of the] day.

The tarnishing is explained in the annotations to (26) above. The *Wujing zongyao* (*houji* juan 21, *Dunjia fa*) says that it will be ill advised to call out the troops when the stem of the double-hour subjugates the stem of the day.[12]

(28) [*Zi* and *wu*] one above the other is a *yin* (moaning) blockage (*ge*) and both are ominous.

According to the *Wujing zongyao*, *zi* over *wu* is called *fuyin* 伏吟 (Mourning in a crouched position), while *wu* over *zi* is called *fanyin* 反吟 (Mourning in a turned-backward position). It also says that under such circumstances military movement is not advisable.

(29) Keeping [secret information], capturing [spies and runaways], and making escapes are all matters that require careful examination of the double-hour.

To read what the *Qimen Dunjia* cosmic boards say on matters concerning secret information, spies and escapees, the double-hour is to be consulted.

(30) [The same applies] to the reading of the fate of someone who has been sent out [of the camp] on a mission.

(For the above and) to read the fate of those who left the camp on special mission (instructions are given below).

(31) The Three Distinguished-Ones move among the [Nine Stars of *Bei*] *dou* [on the heaven board] meeting the Six Outward-Forms (*Liuyi*) [on the earth board].

Notice the meeting of *yi*, *bing* and *ding* on the heaven board with *wu*, *ji*, *geng*, *xin*, *ren* and *gui* on the earth board.

(32) Meeting and combination of *Tianyi* govern private and confidential matters.

The text is ambiguous here. Translated as above it means *Zhifu* on the heaven board is directly above *Zhifu* on the earth board. *Tianyi* is taken as a synonym for *Zhifu*. On the other hand, the same clause may be translated as 'When *yi* on the heaven (board) meets *yi* on the earth board private and confidential matters are being concerned'. A third possibility is the deployment of terms normally used in the *Liuren* method, where *Tianyi* is the abbreviation for *Tianyi guiren* 天乙貴人 (the Noble One among the Twelve Heavenly Generals).[13] Li Quan's *Taibai yinjing* renders strong support to the interpretation of *Tianyi* as the Noble One in the *Liuren* system.[14]

(33) [To read signs about the final outcome of] pursuing and capturing [enemy agents and runaways] requires an understanding of what the stem of the double-hour subjugates.

For matters pertaining to the hunting and capture of enemy agents and recapturing of escapees, note the subjugation of the double-hour stem on the earth board.

(34) To seek news concerning someone sent out (from the camp) on a mission look for the Three Distinguished-Ones.

Note the stems *yi*, *bing* and *ding* (on the heaven board) to find out the fate of someone despatched from the camp on a special mission.

(35) Observe the Three Distinguished-Ones over the Six Outward-Forms [on the earth board] below,

Noting which of the six stems of *wu*, *ji*, *geng*, *xin*, *ren* and *gui* that are under them on the earth board.

(36) And note if the stem on the earth board belongs to [one of the] five *Yang* double-hours [which would be auspicious for those on a mission as well as for fugitives].

The *Yang* double-hours are *jia*, *yi*, *bing*, *ding* and *wu*. If they are found on the earth board below the Three Distinguished-Ones on the heaven board, they augur well for those sent out on mission as well as for the fugitives.

(37) Observe the Eight Gates for auspicious (and advantageous) directions.

Look for the Gates Admission, Rest and Life to find which of them comes together with the Three Distinguished-Ones.

(38) All matters admitted in threes augur well in all things.

In all matters, everything will augur well when three members from each of the three groups of Admission, Rest and Life auspicious Gates, the three Distinguished-Ones *yi*, *bing* and *ding*, and the three Yin Gates or 'Deception Gates' (*Taiyin*, *Jiudi* and *Liuhe*) meet in the same palace.

(39) The five *Yang* [double-hours] are in front, followed behind by the five *Yin* [double-hours].

The five *Yang* hours are *jia*, *yi*, *bing*, *ding* and *wu* while the five *Yin* double-hours are *ji*, *geng*, *xin*, *ren* and *gui*.

(40) Understanding of the waxing and waning of fortune [indicated on the heaven and earth boards helps to decide to be on the defensive as] the host or [to take the offensive as] the guest.

The five *Yang* double-hours favour the guest, the side taking the offensive. The attacker should raise banners high, beat drums loudly and make a great noise to strike fear in the enemy, while the defending party is advised to keep banners down and maintain a low profile while waiting for a right moment to strike back. The five *Yin* double-hours favour the defender. One should not make the first move, but rather make plans to trap the attacker or to infiltrate and destroy the enemy camps.

(41) One should be wary of the fifth stem behind *Yin*.

Yin here refers to the essence of *TaiYin* (i.e. the stem *bing*). The fifth stem counting from *bing* is the stem *Metal geng*.

(42) The Six Outward-Forms meeting [*geng*] bring nothing good.

Metal geng on the heaven board over *wu*, *ji*, *geng*, *xin*, *ren* and *gui* on the earth board results in nothing good.

(43) The Six Outward-Forms (*Liuyi*) suddenly enter Palace 3.

It should be one of the six, i.e. the Outward-Form *wu* appearing in Palace 3 rather than involving the other five. *Wu* in Palace 3, *ji* in Palace 2, *geng* in Palace 8, *xin* in Palace 9, *ren* in Palace 4 and *gui* in Palace 4 are all ominous signs known as *xingji* 刑擊 (Punitive-Strike).

(44) This is [called] Punitive-Strike (*xingji*), and should be avoided at first sight.

(45) When one of the Six Outward-Forms turns into Punitive-Strike, or when one of the Three Distinguished-Ones enters the phase of in-grave (*wu*),

When *yi* enters *kun* Palace 2 and when *bing* or *ding* enters *qian* Palace 6, *Yi Wood* subjugates *Earth kun* Palace 2 and *bing Fire* or *ding Fire* subjugates *Metal qian* Palace 6. These are all very undesirable signs, known as *wu* (grave).

(46) Any operation carried out at this moment will invariably fail.

(47) Venus entering Mars predicts that the enemy will soon arrive.

i.e. when *geng Metal* is over *bing Fire*.

(48) *Fire* entering the *Metal* Sector predicts that the enemy will soon leave.

Departure of the enemy is indicated by *bing Fire* over *geng Metal*.

(49) *Bing* is called Revolt (*bo*), while *geng* is called Blockage (*ge*).

Bing over the stem of the day is called *bo* and *geng* over the stem of the day is called *ge*.

(50) Blockage (*ge*) disrupts communication, while Revolt (*bo*) brings unrest and rebellion.

Both are ominous signs.

(51) *Geng* (stem) over the stem of the day [concerned] is [more specifically] called Crouching-Stem (*fugan*).

Also known as *fugange* 伏干格 type of Blockage.

(52) The stem of the day over *geng* stem is called Flying-Stem (*feigan*).

Also known as *feigange* 飛干格 type of Blockage.

(53) *Geng* over the Duty-Warrant Officer (*Zhifu*) is called Heavenly-One-Crouching-At-The-Palace [Blockage] (*Tianyi fugong* [*ge*]).

Also known as *Tianyi fugange* 天乙伏干格 type of Blockage.

(54) The Duty-Warrant Officer over *geng* is called Heavenly-One Flying-Over.

Also known as *Tianyi feigongge* 天乙飛宮格 type of Blockage.

(55) [*Geng*] over *ji* stem forms the Punitive Blockage (*xingge*), for the roads.

A sign that carriages will be damaged, horses injured and stopping midway in a journey; also showing that soldiers will desert and flee.

(56) [*Geng*] over *gui* stem forms the Great Blockage (*dage*) for road traffic.

Geng over *gui* is ominous for hundreds of matters. Do not initiate (military) moves, lost articles will not be recovered and the escapee will not be captured.

(57) [*Geng*] over *ren* stem forms Small Blockage (*xiaoge*).

'Small Blockage' should be amended to read 'Upper Blockage (*shangge* 上格)' in comparison with several other texts. Military movements should be avoided.

(58) Furthermore, it is undesirable [for *geng* stem] to be over the stems of the year, month, day and double-hour.

Geng over the year stem is called *suige* 歲格 (Year Blockage), over the stem of the month is called *yuege* 月格 (Month Blockage), over stem of the first day of the month is called *shuoge* 朔格 (New Moon Blockage), over the stem of the day is called *rige* 日格 (Day Blockage) and over the stem of the double-hour is called *shige* 時格 (Time Blockage)

(59) All the above manifestations are ominous.

(60) Avoid them in all military operations.

(61) *Bing* over *jia* is known as the Bird-Crouching-In-Its-Nest (*liaofuxue*).

Bing Fire over *jia Wood* produces warmth, like a bird crouching in its nest. This is an auspicious sign for all occasions.

(62) *Jia* over *bing* is known as the Dragon-Turning-Back-Its-Head (*longfanshou*).

Jia Wood generates *bing Fire* below. The Dragon is the sign for *jia Wood* or of the East. *Bing Fire* signifies the South. Thus comes the Dragon turning its head towards the South. This is an auspicious sign.

(63) *Xin* over *yi* is known as the Tiger-Running-Wild (*huchangkuang*).

Xin Metal subjugates *yi Wood* and *xin Metal* denotes the West and the White Tiger. This is a very ominous sign.

(64) *Yi* over *xin* is known as the Dragon-In-Escape (*longtaozou*) [which again is an ominous sign].

Yi Wood is the Dragon and is subjugated by *xin Metal* below. Below subjugating the above is very ominous indeed.

(65) *Ding* over *gui* is known as the Bird-Entering-River (*juerujiang*).

Ding Fire is the Crimson Bird and is here subjugated by *gui Water* below. This is very ominous.

(66) *Gu* over *ding* is known as the Snake-Being-Young-And-Boisterous (*sheyaojiao*).

Gui Water denotes the North symbolized by the Tortoise and the Snake. Here it subjugates *ding Fire* below it. This is also regarded as very ominous.

(67) The Duty-Warrant Officer (*Zhifu*), over *bing* (stem) or *ding* (stem) takes on the role of a Minister or Adjutant.

Zhifu is jia Wood. When over *bing Fire* or *ding Fire* it generates what lies below and hence is an auspicious sign. See (62).

(68) The Messenger [referred to in (24)] over one of the six *ding*s (Fire) [on the earth board] takes on the role of a Doorkeeper.

This is an auspicious sign foreboding that secrets will be preserved and that peace-talk and matchmaking will be successfully performed.

(69) *Sheng*[*men* Gate] and *bing* (Fire) [on the heaven board] over *wu* (Earth) [on the earth board] form [the configuration of] Heavenly-*Dun* (*tiandun*).

Life Gate and *bing* together on the heaven board above *wu* on the earth board is called *Tiandun*. Similarly, the combination of Admission Gate with *bing* is also known as *Tiandun*. This is a very auspicious sign.

(70) For [the configuration of] Earthly-*Dun* (*didun*) *yi* and *kai* [*men*] are over *ji*.

Yi Wood and Admission Gate on the heaven board over *ji Earth* on the earth board, known as *didun*, is another very auspicious sign.

(71) *Xiu* [*men* Gate], *ding* stem and Ultimate-*Yin* (*Taiyin*) together on the heaven board form [the configuration of] Human-*Dun* (*rendun*).

Rest Gate, *ding Fire* and *Taiyin* 'Deception Gate' together on the heaven board form the *rendun*, which is another very auspicious sign.

(72) The Net-of-Heaven (*tianwang*) encompasses the four directions when the stem of the double-hour in question is over the *gui* (*Water*) stem.

Gui over the stem of the double-hour is an ominous sign for the escapee in hiding or in running.

(73) [Tian] peng [star on the heaven board] over [Tian] ying [star on the earth board] is called Moaning-in-a-turned-backward position (*fanyin*).

This is an ominous sign. See also (28).

(74) [Tian] peng [star on the heaven board] over [Tian] peng [star on the earth board] is called Moaning-in-a-Crouched-Position (*fuyin*).

This is also a very ominous sign. See also (28).

(75) [However, if the two cases above are] met by an auspicious star of the Plough it would augur well.

The situation in the two cases changes for the better in the presence of an auspicious star of the Plough, i.e. one of Tianfu, Tianchong, Tianren, Tianqin and Tianxin listed in (77).

(76) [But if they are] met by an ominous star of the Plough, the ill omen would be of even greater magnitude.

However, things would worsen further in the presence of an ominous star of the Plough listed in (78).

(77) Tianfu, [Tian] chong, [Tian] ren, [Tian] qin, and [Tian] xin [stars of the Plough] are auspicious.

(78) Tianpeng, [Tian] ying, [Tian] rui, and [Tian] zhu [stars of the Plough] are ominous.

(79) The *Yin* stars (among the above) are [Tian] qin, [Tian] xin, [Tian] zhu, [Tian] ying and [Tian] rui.

(80) The *Yang* stars (among the above) are [Tian] chong, [Tian] fu, [Tian] peng and [Tian] ren.

(81) When the Net-of-Heaven encompasses the four directions there is no way of escape.

Repeating (72).

(82) Marvellous results obtained from the progression and retrogression of *Yin* and *Yang* are without limit.

Repeating (1).

(83) Time corresponds to the changing of the fortnightly periods.

Repeating the need to follow the fortnightly periods.

(84) The two solstices indicate the way back to the numbers from 1 to 9 in the Nine Palaces (*jiugong*) [magic square].

Repeating (2).

(85) There are the Three Epochs, [the method of] *chao* [*shen*] in *Dun* [*jia*] calculations, and six [of the stem-branch combinations in the sexagenary cycle with] *jia* [as stem] (*Liujia*).

The operator must be able to select from the four different processes of *zhengshou* 正授 (direct proclamation), *chaoshen* 超神 (exceeding spirit), *runqi* 閏奇 (intercalation of the extraordinary) and *jieqi* 接氣 (connecting fortnightly period) as will be illustrated by an actual example below.

(86) The Eight Trigrams spread around in the Nine Palaces [magic square].

Repeating the movement of the heaven board over the earth board and reminding us of the positions of the Eight Trigrams and the numbers of the *jiugong* magic square.

The above translation contains more explanations than the original text itself, but even with the annotations it is still quite incomprehensible to a reader without a prior knowledge of the *Qimen Dunjia* method. Hence a

description of the method of *Qimen Dunjia* is called for before going further with the *Huangdi yinfujing*.

Qimen Dunjia

Qimen Dunjia was one form of *Dunjia* and refers here to the officially adopted form of *dunjia* for the three cosmic board examinations in Song China. Translated fully, the term reads 'Concealing the *Yang Wood* (in relation to the Three) Distinguished-Ones (*yi*, *bing* and *ding* stems and the Three Auspicious) Gates'. It employed a stationary board, called the *dipan* 地盤 (earth board), above which was a rotating board, called *tianpan* 天盤 (heaven board). Each board was divided into eight sectors. On the earth board were the numbers of the Chinese magic square of order 3, with the number 5 in the centre and the other eight numbers round a circle. The numbers of the magic square were accompanied by their corresponding Eight Trigrams. There were also the Eight Gates (*bamen* 八門 referred to in clause (6) of the *Huangdi yinfujing* above [i.e. *du* (Rejection), *jing* (View), *si* (Death), *jing* (Fright), *kai* (Admission), *xiu* (Rest), *sheng* (Life/Production), and *shang* (Injury)], and the Nine Stars (*jiuxing*) of Beidou, the Plough, e.g. Tianpeng (Celestial Vagabond), Tianrui (Celestial Budding), Tianchong (Celestial Clash), Tianfu (Celestial Supporter), Tianqin (Celestial Bird), Tianxin (Celestial Heart), Tianzhu (Celestial Pillar), Tianren (Celestial Responsibility), and Tianying (Celestial Elegance).[15] The Nine Stars are the stars referred to in clause (7). Their positions on the earth board were fixed, but on the heaven board would rotate according to the double-hour. Next came the celestial stems and the terrestrial branches, whose positions on the earth board were determined by the position of the sun on the day of operation. The three stems *yi*, *bing* and *ding* were known as the Three Distinguished-Ones, as defined in clause (10), also called Sun Distinguished-One (*riqi*), Moon Distinguished-One (*yueqi*) and Star Distinguished-One (*xingqi*) respectively. The six stems *wu*, *ji*, *geng*, *xin*, *ren* and *gui*, known as *Liuyi* or *Liujia*, as mentioned in clause (9), contained the six sexagenary cyclic numbers *jiazi*, *jiaxu*, *jiashen*, *jiawu*, *jiachen* and *jiayin* respectively. All the items on the earth board classified in accordance to *Yin* and *Yang*, as well as *Wood*, *Fire*, *Earth*, *Metal* and *Water*, are shown in Table 4.1. Figure 4.2 shows the basic earth board with the constant *jiugong* palaces and the related Trigrams, together with the Nine Stars and the Eight Gates that will later move on the heaven board.

Most of the above items also appeared on the heaven board, but their positions varied according to calculations. Also found on the heaven board were the eight 'Deception Gates' (*zhamen* 詐門), namely *Zhifu* 直符 (Duty Warrant), *Tengshe* 螣蛇 (Rising Serpent), *Taiyin* 太陰 (Ultimate Yin), *Liuhe* 六合 (Six Encompassers), *Gouzhen* 勾陳 (Angular Arranger), *Zhuque* 朱雀 (Vermilion Bird), *Jiudi* 九地 (Nine-Earth) and *Jiutian* 九天 (Nine-Heaven).[16] At one half of the year, the Angular Arranger is replaced by *Baihu* 白虎

Table 4.1

xing	Yin/Yang	*Trigram*	*stem*	*branch*	*Nine Stars*	*Gate*
Wood	*Yang Yin*	*chen sun*	*jia yi*	*yin*	Tianchong	Injury
				mao	Tianfu	Rejection
Fire	*Yang Yin*	*li*	*bing*	*wu si*		
			ding		Tianying	View
Earth	*Yang*	*gen*	*wu*	*chen*	Tianren	Life
	Yin	*kun*	*ji*	*xu*	Tianqin	Death
				chou	Tianrui	
				wei		
Metal	*Yang*	*qian dui*	*geng xin*	*shen you*	Tianxin	Admission
	Yin				Tianzhu	Fright
Water	*Yang*	*kan*	*ren gui*	*zi*	Tianpeng	Rest
	Yin	*dui**		*hai*		

*Note that *dui* appears twice.

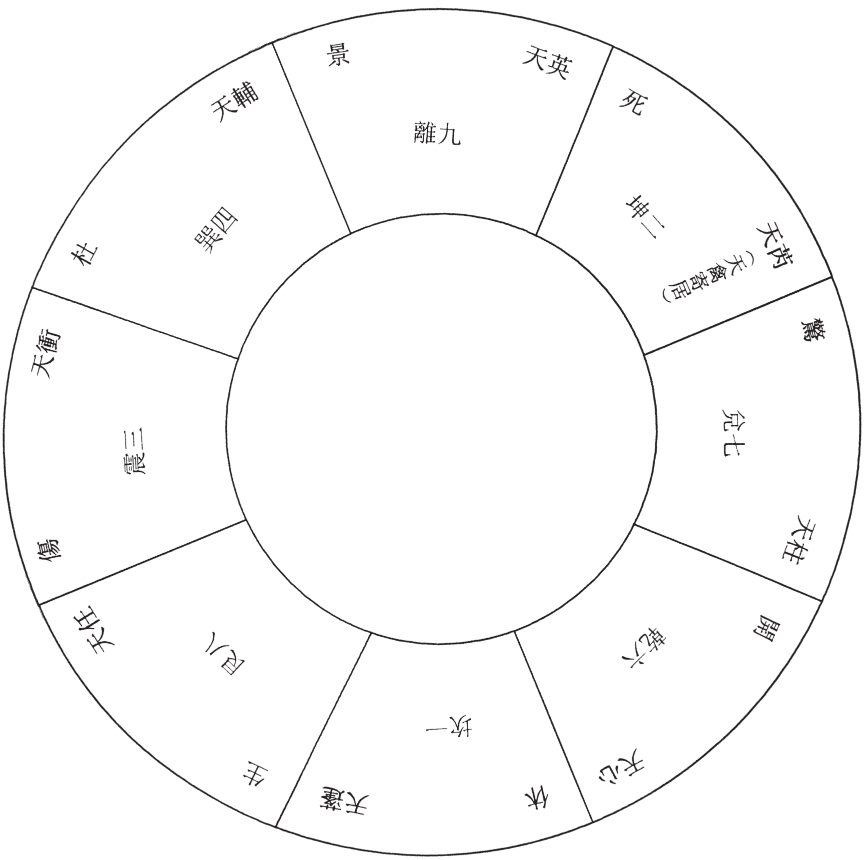


Figure 4.2 Initial set-up of the *dipan* with Trigrams, *Luoshu* numbers, the Nine Stars and the Eight Gates in fixed positions.

(White Tiger) and the Vermilion Bird by *Xuanwu* 玄武 (Sombre Warrior). The latter was also called *Yuanwu* 元武. Clauses (16) to (18) refer to these 'Deception Gates'.

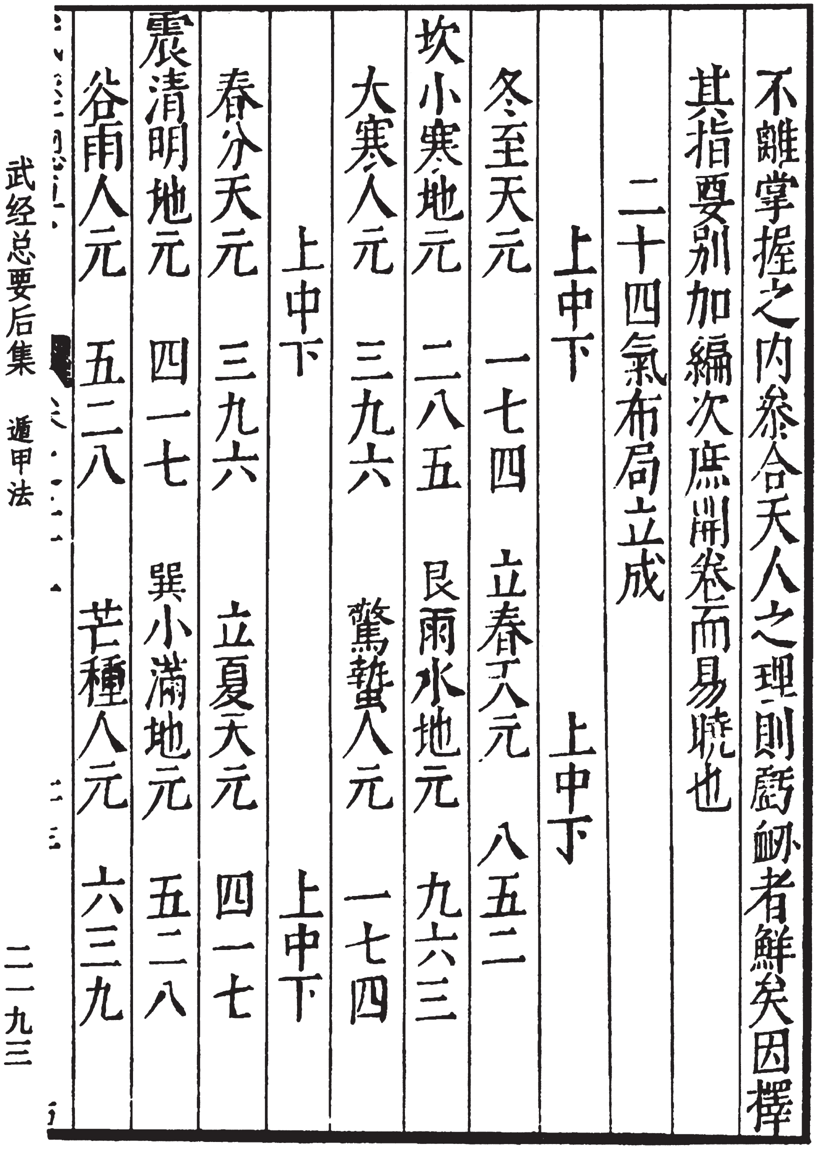
Example illustrating the operation of the *Qimen Dunjia* cosmic boards

Adopting the eleventh-century official procedure of Song China given in Yang Weide's *Jingyou Dunjia fuyingjing* 景祐遁甲符應經, let us perform an operation on the *Qimen Dunjia* board between 17:00 and 19:00 hours local mean time on the 8th of April 1997.[17] The time would correspond to the *you* double-hour and the date to a *gengchen* day, the second day in the third lunar month of a *dingchou* year in the traditional Chinese calendar. First note the position of the sun along the ecliptic by finding the fortnightly period immediately before the day. This would be the *qingming* 清明 fortnightly period, which fell three days prior to the *gengchen* day. When the fortnightly period concerned came after the winter solstice the movement, called *Yangdun* 陽遁, would be in the ascending order (lit. progression, *shunxing* 順行), and when it came after the summer solstice the movement, known as *Yindun* 陰遁, would be in the descending order (lit. retrogression, *nixing* 逆行). This is what is hinted at by clauses (1) and (2) of the *Huangdi yinfujing* text above. For the *qingming* fortnightly period the movement would therefore be in the ascending order.

Referring to a table of (*Dunjia*) settings for the 24 fortnightly periods (*ershisiqi buju lichengbiao* 二十四氣佈局立成表) (see Figure 4.3). The 24 fortnightly periods are divided into three periods (*san yuan* 三元) – *tianyuan* 天元, *diyuan* 地元 and *renyuan* 人元 – as shown in Figure 4.3 and mentioned above in clause (5) of the *Huangdi yinfujing*. Also, three numbers are given for every fortnightly period and those found under *qingming* are:

qingming 4 1 7

These three numbers refer to those in the *jiugong* magic square from which operations on the *Qimen Dunjia* earth board would begin by adopting the ascending order for the numbers (*Yangdun*) just found. The first number is for the upper setting (*shangju* 上局 or *shanghou* 上候), the second for the middle setting (*zhongju* 中局 or *zhonghou* 中候) and the third for the lower setting (*xiaju* 下局 or *xiahou* 下候). The operator would need to determine which of the three numbers to use by making a proper selection from among the four different processes of *zhengshou* (direct proclamation), *chaoshen* (exceeding spirit), *runqi* (intercalation of the extraordinary) and *jieqi* (connecting fortnightly period). When the sexagenary cycle of the day in question begins with the first stem *jia* or the sixth stem *ji*, the operator can start working on the earth board without further ado. A day with a stem *jia* or *ji* is known as *futou* 符頭 (Chief Warrant). When a day falls



不離掌握之內叅合天人之理則窮研者鮮矣因擇
其指要別加編次庶開卷而易曉也
二十四氣布局立成
上中下 上中下
冬至天元 一七四 立春人元 八五二
坎小寒地元 二八五 艮雨水地元 九六三
大寒人元 三九六 驚蟄人元 一七四
上中下 上中下
春分天元 三九六 立夏天元 四一七
震清明地元 四一七 巽小滿地元 五二八
谷雨人元 五二八 芒種人元 六三九

武经总要后集 遁甲法 二一九三

Figure 4.3 Fortnightly periods and *Qimen Dunjia* Configurations, from *Wujing zongyao* (*houji*): *zhanhou* 5.

between one to eight days after the fortnightly period concerned, the process to be used is called *chaoshen*. When a day falls nine or more days after the fortnightly period concerned, then one of the processes *runqi* and *jieqi* has to be correctly determined. When the fortnightly period concerned falls

between *mangzhong* 芒種 and the summer solstice *xiazhi* 夏至 or between *daxue* 大雪 and the winter solstice *dongzhi* 冬至, then the same fortnightly period can continue to be used and the process is known as *runqi*. These are exceptional cases. Normally, when a day falls nine or more days after the fortnightly period concerned, the following fortnightly period has to be used instead. This is the process of *jieqi*. For the *gengchen* day that comes three days after *qingming*, clearly the process to be used is that of *chaoshen*. This is what is hinted at in clause (83) in the *Huangdi yinfujing*. In fact, the repetition of this part of the procedure in clause (80) to clause (84) serves as a reminder of its importance.

The importance of the above cannot be given more emphasis than by an example of an examination question from the traditional Chinese Astronomical Bureau given in the *Mishujianzhi* 秘書監志 (Annals of the Secretariat). The question on the *Qimen Dunjia* system for admission as astronomy students (*tianwensheng* 天文生) into the Astronomical Bureau of that time was in the nature of a 'stock' question that read:

> 'Explain what is meant by "Winter solstice 1 7 4".'

A different fortnightly period might be substituted for the winter solstice for different examinations. This was meant to be an essay-type question to test both the candidate's knowledge and his ability to express himself in good literary style. The Astronomical Bureau would enlist successful candidates as astronomy students and train them to interpret prognostications for meteorological forecasting.

The sexagenary cycle beginning with either *jia* or *ji*, i.e. the *futou*, immediately ahead of *gengchen* is *jimao*. The branch of the *futou* determines which of the three settings is to be used. *Zi*, *mao*, *wu* and *you* give the upper setting, *yin*, *si*, *shen* and *hai* give the middle, while *chou*, *chen*, *wei* and *xu* give the lower. For *jimao*, therefore, the upper setting is indicated, and the upper setting shows the number 4. Hence the operation known as *Yangdun siju* 陽遁四局 (Ascending Movement in Setting 4) is used in the present case.

The earth board is now ready for setting. Moving in the ascending order *wu* (*jiazi*) is placed in *sun* Palace Four with its corresponding Tianfu star and Rejection Gate, *ji* (*jiaxu*) in Palace Five but shifted to *kun* Palace Two with its corresponding Tianrui star and Death Gate, *geng* (*jiashen*) in *qian* Palace Six with its corresponding Tianxin star and Admission Gate, *xin* (*jiawu*) in *dui* Palace Seven with its corresponding Tianzhu star and Fright Gate, *ren* (*jiachen*) in *ken* Palace Eight with its corresponding Tianren star and Life Gate and *gui* (*jiayin*) in *li* Palace Nine with its corresponding Tianying star and View Gate. Moving in the descending order starting from one palace after *sun* Palace Four, the Distinguished-One *yi* (*riqi*) is placed in *zhen* Palace Three with its corresponding Tianchong star and Injury Gate, the Distinguished-One *bing* (*yueqi*) in *kun* Palace Two sharing the same palace with *ji* (*jiaxu*), and the Distinguished-One *ding* (*xingqi*) in *kan*

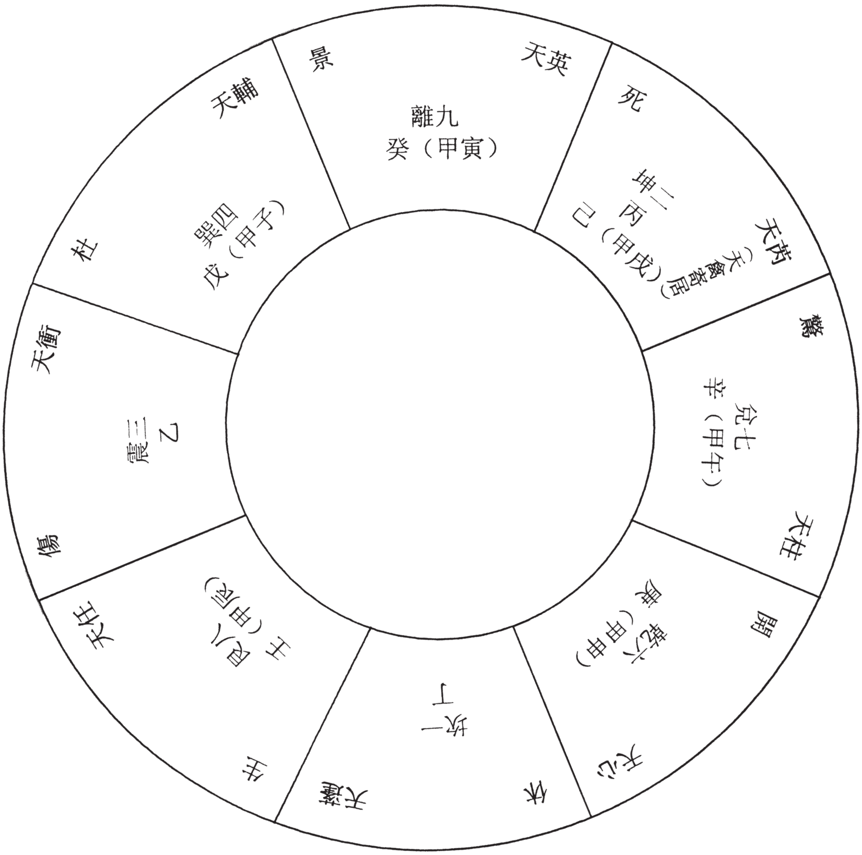


Figure 4.4 Dipan with the day-stem added.

Palace One with its corresponding Tianpeng star and Rest Gate. The above completes the setting of the earth board. See Figure 4.4.

Stems and branches, the Nine Stars and the Eight Gates on the heaven board rotate with time, but directions indicated by the Trigrams and the palaces of the *jiugong* magic square remain unchanged. The time here is the *yiyou* double-hour. Counting backwards, find the closest previous cyclic number beginning with a *jia* stem. This is found to be *jiashen* and is known as *xunshou* 旬首 (first of the decan). *Xunshou*, in this case *jiashen*, is on duty taking charge of affairs. Its stem *jia* is the *Zhifu* 直符 (Duty Warrant Officer) and its branch *shen* is the *Zhishi* 直使 (Duty Messenger). *Jiashen* lies in *qian* Palace Six on the earth board, while *yi*, the stem of the double-hour, lies in *zhen* Palace Three. *Zhifu* moves to *zhen* Palace Three on the heaven board taking along with it Tianxin star and *geng* from *qian* Palace Six. Subsequently, *ding* the Distinguished-One takes along Tianpeng star

to move to *sun* Palace Four on the heaven board from *kan* Palace One, *ren* moves with Tianren star to *li* Palace Nine on the heaven board from *gen* Palace Eight, *yi* the Distinguished-One moves with Tianchong star to *kun* Palace Two on the heaven board from *zhen* Palace Three, *wu* and the star Tianfu move to *Dui* Palace Seven on the heaven board from *sun* Palace Four, *gui* and Tianying star move to *qian* Palace Six on the heaven board from *li* Palace Nine, *bing* the Distinguished-One, *ji*, and the stars Tianqin and Tianrui all move to *kan* Palace One on the heaven board from *kun* Palace Two, and *xin* moves with Tianzhu star to *gen* Palace Eight on the heaven board from *dui* Palace Seven on the earth board.

Zhishi (Duty Messenger), which is the branch of the double-hour, governs the movements of the Eight Gates. Here *Zhishi* is *shen*. From *qian* Palace Six (where *shen* lies on the earth board) count in ascending palace order for each of the next branch until it comes to *dui* Palace Seven for *you*, which is the branch of the double-hour. *Zhishi* brings the Life Gate from *qian* Palace Six on the earth board to *dui* Palace Seven on the heaven board, the Gate of Rest from *kan* Palace One on the earth board to *qian* Palace Six on the heaven board, and so forth, resulting in all the gates moving one palace in the anticlockwise direction from the earth board to the heaven board.

Lastly, from the Warrant-Duty Officer *Zhifu* in *zhen* Palace Three, place in order in the clockwise direction the other seven 'Deception Gates', i.e. *Tengshe* in *sun* Palace Four, *Taiyin* in *li* Palace Nine, *Liuhe* in *kun* Palace Two, *Gouzhen* in *dui* Palace Seven, *Zhuque* in *qian* Palace Six, *Jiudi* in *kan* Palace One, and *Jiutian* in *gen* Palace Eight. The now completed earth board and heaven board for *Yangdun siju* (Ascending Movement for Setting 4) for a *gengchen* day at the *yiyou* double-hour is shown in Figure 4.5. This completes the operation of the *Qimen Dunjia* system. The next step is to discuss its applications and interpretations.

Military operations

The *Huangdi yinfujing* confines itself to the applications of the system of *Qimen Dunjia* to military use. Clauses (11), (12) and (38) refer to the auspicious signs indicated by combinations of the three Distinguished-Ones, *yi*, *bing* and *ding*, with the three auspicious gates, *kai* (Admission), *xiu* (Rest) and *sheng* (Life), which gave the system its name. It would be even more auspicious if there are further combinations with the three auspicious 'Deception Gates' *Taiyin*, *Liuhe* and *Jiudi*, mentioned in Clause (38). The combinations indicate the favourable direction for military action, but in time of urgency Clause (21) says that one might use only the 'Deception Gates'. Clauses (19) and (20) tell us that *Jiudi* is the ideal direction for laying an ambush or to hide from the enemy, *Jiutian* is the direction of choice for displaying one's military might, and both *Liuhe* and *Taiyin* indicate the favourable directions for hiding.

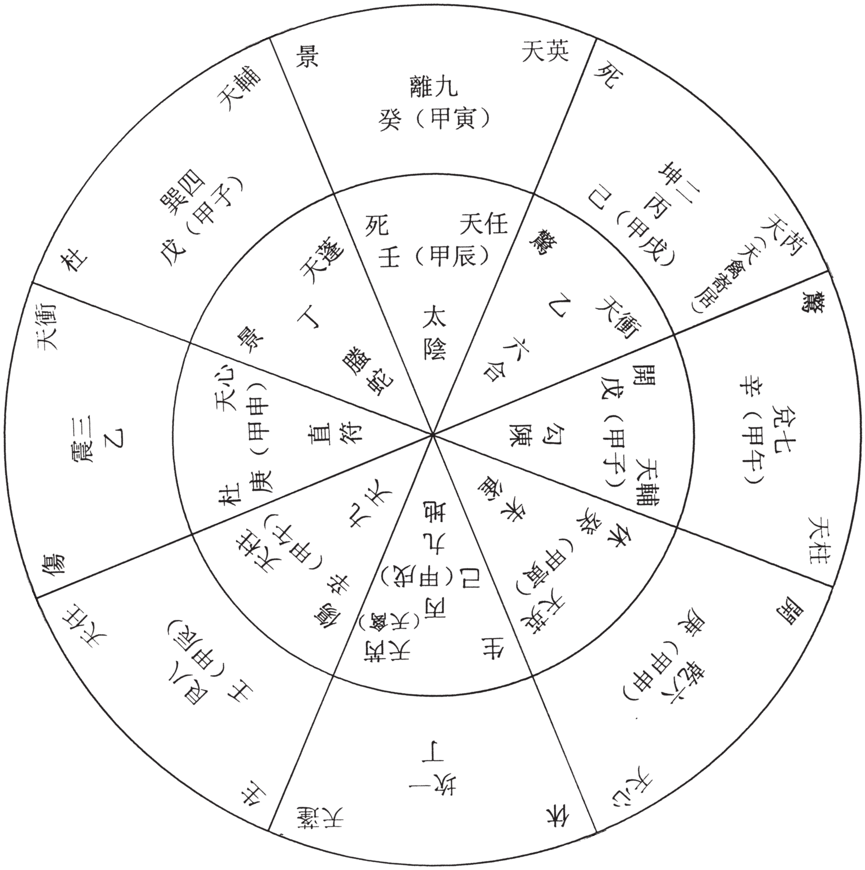


Figure 4.5 Qimen Dunjia Configuration complete with earth board and heaven board in place.

But first the stem of the day, the stem of the time and their mutual relations should be noted, as said in Clause (22) to Clause (27) of the *Huangdi yinfujing* text. One generating the other is auspicious, while one dominating the other is evil. In the *tiangan* stem cycle any member encountering its third member is auspicious, but encountering its fifth member is bad. Clause (28) refers to the relation of the branches *zi* and *wu* coming together which would be an ominous sign for launching an attack. For the *gengchen* and *yiyou* double-hour, *geng Metal* dominates *yi Wood* and therefore it is not advisable to initiate military operation. It might be necessary to operate on the *Qimen Dunjia* cosmic boards resulting in Figure 4.5. Here we observe that the Distinguished-One *bing*, the auspicious Gate Life and the auspicious 'Deception Gate' *Jiudi* are together in the *kan* Palace One on the heaven board, indicating that the north would be the most



Figure 4.6 Modern earth board and heaven board model illustrating Configuration shown in Figure 4.5.

favourable direction for launching an attack on the enemy, but it is not the right day and time. In case of emergency, a decision has to be made on the choice of directions most favourable for keeping low and this would be between *Taiyin* and *Liuhe*, in the south and southwest respectively. Referring also to Table 4.1, in the southwest the *kun* Palace Two, which belongs to the *xing* of *Earth*, is dominated by the *Wood* Tianchong star, favouring the 'guest', that is, the enemy launching an attack. Therefore south is the direction of choice.

The rest of the clauses dealing with the combination of stems on both the heaven and the earth boards are self-explanatory. It is interesting to note the use of terms like Dragon, Tiger, Bird and Snake to denote *Wood*, *Metal*, *Fire* and *Water* respectively and the operation of the principles of *wuxing*.

The examples given in the *Huangdi yinfujing* are by no means complete. More examples can be found in Yang Weide's writings and we can find one such in Figure 4.5. In *zhen* Palace Three, *Zhifu*, which is *jia Wood* on the heaven board, is above *yi Wood* on the earth board. This is called 'Two Dragons Fighting' (*er long xiangzheng* 二龍相爭), an ominous event. Palace Three is very bad in any case. Being of *Wood* it already suffers from the subjugation by the *Metal* Tianxin star, which is an ominous sign. Furthermore, *geng* is above the double-hour stem *yi*, giving rise to 'Time Blockage' mentioned in the annotation of Clause (58), and is also a bad sign.

To complete the interpretations of the palaces in Figure 4.5 we are left to consider Palace Four, Palace Six, Palace Seven, Palace Eight and Palace Nine. In *sun* Palace Six, Tianpeng (*Water*) subjugates View Gate (*Fire*), but *sun* Palace (*Wood*) generates the View Gate (*Fire*) and thus neutralizes the bad effect. In *qian* Palace Six, Tianying star (*Fire*) subjugates *qian* (*Metal*) Palace Four itself, which should favour the aggressor coming from the northwest, but then both the Rest Gate (*Water*) and *ren* (*Water*) control this process by subjugating *Fire*, and hence there is no advantage for the attacker. In *dui* Palace Seven, Tianfu (*Wood*) star on the heaven board is subjugated by *xin Metal* on the earth board. To be subjugated by one below is a very ominous sign indeed. *Gen* (*Earth*) Palace Eight seems to be rather bad, because it is subjugated by the Injury (*Wood*) Gate, but the situation is saved by Tianzhu (*Metal*) star and *xin Metal* both subjugating the *Wood* Injury Gate. In *li* Palace Nine, only the presence of the auspicious *Taiyin* 'Deception Gate' is noteworthy.

It is perhaps significant that the application of the *Qimen Dunjia* method in the *Huangdi yinfujing* is strictly confined to military matters and so does the *Dunjia fa* section in the military compendium *Wujing zongyao*, but that the latter includes liturgical magic which does not involve using the cosmic boards. The explanation is that the *Huangdi yinfujing* deals exclusively with the *Qimen Dunjia* method, while military compendia such as the *Wujing zongyao*, the *Wubeizhi* and the *Binglu* 兵錄 contain a mixture of *Qimen Dunjia* and other *Dunjia* methods in various proportion, all under the general name of *Dunjia*.

Conjectural origin of the *Huangdi yinfujing*

Both the authorship and the date of writing of the *Huangdi yinfujing* cannot be known precisely. The material in the text is partly similar to the chapter on the *Qimen Dunjia* in *juan* 9 of Li Quan's *Taibai yinjing* dated AD 795, although written in a different style. We have sufficient evidence to show that the *Qimen Dunjia* method was known in China not later than the eighth century. It is fair therefore to speculate that the earliest date for the compilation of the *Huangdi yinfujing* text would not have been earlier. As we have seen, the text was written in mnemonic rhymes, containing only what was considered as essentials of the *Qimen Dunjia* method and rendering

it quite incomprehensible to a reader without guidance from an expert. It could not have been meant to be a textbook or a teach-yourself book but rather as some sort of a handbook to help a learner to commit to memory the essentials of the art. Being involved with military knowledge, the composer of the book had taken due precaution to guard against the method falling into the wrong hands. The readership of the book would be the exclusive few who could avail themselves of expert advice and instructions. It seems therefore that the book was originally composed for the candidates in the Astronomical Bureau examinations and perhaps also for the information of military commanders and their advisers in eleventh-century Song China. The composer was perhaps someone who had served in the Astronomical Bureau but later retired to live in Yanbo. Being a handbook, he did not use his own name but rather borrowed that of the Yellow Emperor to enhance the prestige and authority of the book. The eleventh century would be a likely period because it was the golden age for the *Qimen Dunjia* method when it came under the patronage of Emperor Renzong. In the early twelfth century, Guo Jing 郭京 claimed to have used the *Dunjia* method against the Jurchen but with disastrous results. He sent his troops outside the city walls and left the gates wide open to meet the invaders. This method is not contained in books on *Qimen Dunjia*, although his decamping without ceremony in the face of the advancing enemy can also be described by the same word '*dun*' that has the meaning of 'fleeing and disappearing'.[18] Nevertheless, without a proper understanding of the difference between *Qimen Dunjia* and the other forms of *Dunjia* people generally became rather cautious with *Dunjia* and there would be a lack of motive to write a handbook on the subject. It would seem reasonable therefore to place the *Huangdi yinfujing* not later than the eleventh century and we can speculate that it was written between the eighth and the eleventh century, probably closer to the latter than the former.

The date and the authorship of the *Yanbo diaosouge* also remain unknown. Yu Zhengxie in his *Guisi leigao* refers to it as a work of the Song period, but says nothing about the identity of its author. Yanbo is the name of a lakeside spot in Hubei province popular with the recluse or retiree. Yanbo diaosou, the Elder Fisherman of Yanbo, sounds like an appellation used by one such person. There were several who adopted this place name as an appellation. For example, Song Boren 宋伯仁 in the Song period called himself Yanbo yuyin 煙波漁隱 (Recluse Fisherman of Yanbo) and Gu Shoujian 顧壽僭 in Ming China styled himself Yanbo Sou 煙波叟 (Elder of Yanbo). It is interesting that a nineteenth-century Japanese scholar Inoue Take 井上岳 also adopted an appellation written in exactly the same Chinese characters as Yanbo diaosou. However, a nineteenth-century scholar cannot be considered as the candidate for a work of which a commentary had already been written in the seventeenth century. There were several others using the place name Yanbo as part of their style, but there is no record showing any of them as being distinguished in the knowledge of

shushu, not even in the case of the Song recluse Song Boren. There is however an eligible candidate in the person of Zhang Zhihe 張志和 who lived during the reign of the Tang emperor Suzong 肅宗 (reigned 756–761) and who styled himself Yanbo diaotu 煙波釣徒 (Student Fisherman of Yanbo). He was noted for his expertise on *shushu*, although we are told only about his writings on the applications of the system of the *Yijing*. A recently published Supplement to the *shushu* section of the *Gujin tushu jicheng* includes a work on *Dunjia* by Yanbo diaotu. He had served as a military advisor, suggesting that he was knowledgeable in the applications of *shushu* to military matters. He became a recluse and adopted a Daoist style Xuanzhenzi 玄真子. As he was highly respected both in public and private life it would not be surprising if those who knew him referred to him as the 'Elder Fisherman' instead of the 'Student Fisherman' which he called himself in modesty. Another small clue is the personal name Guiling 龜齡 that he used in his youth. In the item on the *Dunjia yanyi* 遁甲演義 in the *Siku quanshu zongmu tiyao* 四庫全書總目提要 are found the characters '*wu zong gui yanbo diaosou jue*' 五總龜煙波釣叟訣. One wonders whether there is any significance in having a common character '*gui*' with his personal name. Whether Zhang Zhihe was the actual Yanbo diaosou who wrote the *Yanbo diaosouge* is nothing more than mere conjecture. However, if this is proved to be correct then it would place the *Yanbo diaosouge* in the middle of the eighth century. The early part of that century saw the activities of experts on various forms of *shushu*. Yixing, for example, was knowledgeable in many of them, such as the system of the *Yijing* and astrology, although we have yet to find evidence on his knowledge of the *Qimen Dunjia* system. Yan Dunjie's findings showed that the *Qimen Dunjia* system was known in the eighth century. It would not be unreasonable to think it possible for Li Quan to incorporate the *Huangdi yinfujing* in his military manual in the eighth century. It is an educated guess therefore to place the date of origin of the *Huangdi yinfujing* as some time between the early eighth and the early eleventh century.

The *Huangdi yinfujing* is a military handbook that deals exclusively with the *Qimen Dunjia* method, although it is by no means a complete text on the system. Other military compendia such as the *Wujing zongyao* and the *Wubeizhi* have their own sections on the *Dunjia* methods, which include *Qimen Dunjia* and other *Dunjia* methods that involve the selection of auspicious dates and the use of magic in the form of Daoist liturgy, talismans, offerings, incantations, spells, curses, etc. Even Cheng Daosheng's *Dunjia yanyi* contains other forms of *Dunjia*, which includes four types of *Qimen* 奇門, namely *Nianjia Qimen* 年家奇門 (year *Qimen* school), *Yuejia Qimen* 月家奇門 (month *Qimen* school), *Rijia Qimen* 日家奇門 (day *Qimen* school) and *Shijia Qimen* 時家奇門 (hour *Qimen* school). They are more closely related to the *zeri* 擇日 (date selection) astrology for selection of auspicious dates than the *Qimen Dunjia* system. The year is supposed to be based on a Superior Epoch when the planets together with the sun and the moon

were all in conjunction and when the year, the month and the day at midnight started with the sexagenary number *jiazi*. A cycle of 60 years can be in one of the three epochs *shangyuan* 上元 (upper epoch), *zhongyuan* 中元 (middle epoch) and *xiayuan* 下元 (lower epoch). For a *jiazi* year in the upper epoch, begin with Palace One on the *jiugong* magic square, for a *jiazi* year in the middle epoch begin with Palace Four and for a *jiazi* year in the lower epoch begin with Palace Seven. The three Distinguished-Ones are to be placed in ascending order one step before the palace concerned, while the six Outward-Signs are to be placed in descending order from the palace concerned. For example, 1984 was a *jiazi* year in the lower epoch and one would begin with Palace Seven. Counting one palace in the reversed order for each year, 1994, the *jiaxu* year, would begin with Palace Six, 1998, a *wujin* year, would begin with Palace Two, and 1999, a *jimao* year, would begin with Palace One placed at the centre of the *jiugong* magic square.

The method also employed the 'nine stars', which were different from those of the *Qimen Dunjia* system. These nine stars are shown in Table 4.2

Table 4.2

Nine Palaces	*Nine Stars*	*good/bad omens*	xing
1	Taiyi 太乙	good	*Water*
2	Sheti 攝提	bad	*Earth*
3	Xuanyuan 軒轅	neutral	*Wood*
4	Zhaoyao 招搖	neutral	*Wood*
5	Tianfu 天符	bad	*Earth*
6	Qinglong 青龍	good	*Metal*
7	Xianchi 咸池	bad	*Metal*
8	Taiyin 太陰	good	*Earth*
9	Tianyi 天乙	good	*Fire*

Table 4.3

Day cycles	*Position of Rest Gate*
jiazi, yichou, bingyin, wuzi, jichou, gengyin, renzi, guichou, jiayin	*kan*
dingmao, wuchen, jisi, xinmao, renchen, guisi, yimao, bingchen, dingsi	*kun*
wuwu, jiwei, gengshen, gengwu, xinwei, renshen, jiawu, yiwei, bingshen	*zhen*
dingyou, wuxu, jihai, guiyou, jiaxu, yihai, xinyou, renxu, guihai	*sun*
bingzi, dingchou, wuyin, gengzi, xinyou, renyin	*qian*
jimao, gengchen, xinsi, guimao, jiachen, yisi	*dui*
bingwu, dingwei, wushen, renwu, guiwei, jiashen	*gen*
yiyou, bingxu, dinghai, jiyou, gengxu, xinhai	*li*

in their respective palaces. The Eight Gates are placed according to a set of rules that determine the position of the Rest Gate (*xiumen*), from which the other seven Gates are arranged in a clockwise direction in the order of Rest, Life, Injury, Rejection, View, Death, Fright and Admission. Combinations of the auspicious colours (1 white, 6 white and 8 white) with the three auspicious Gates and auspicious deities formed by stems and branches of the year and month with those of the day would be looked for in this particular system of *Qimen*. However, this system is not our immediate concern, although it had some application in weather forecasting, for example the Blue-Green Dragon *Qinglong* would be watched for rain. We must return to the *Qimen Dunjia* system itself.

Other applications of the *Qimen Dunjia* system

The *Huangdi yinfujing*, as we have seen, is concerned exclusively with military matters. Although specializing in the department of warfare the *Qimen Dujia* system also found other applications. Within the Astronomical Bureau it was employed for meteorological forecasts. It also found applications in the prediction of human affairs. Although weather forecasting was not considered the most important application of *Qimen Dunjia*, it deserves special attention in this book.

Meteorological forecasts

Let us observe the application of *Qimen Dunjia* to weather forecasting and try to understand the rationale of the method in terms of the traditional Chinese worldview. The mutual interactions of the items on the heaven board and the earth board see the traditional Chinese theory of *Yin* and *Yang* and that of the *wuxing* in full action. The Sombre Warrior and the White Tiger were often used in the *Qimen Dunjia* as well as the *Liuren* method to predict rain and wind respectivelly. However, the *Qimen Dunjia* method also made use of some of the Nine Stars for meteorological purposes. Table 4.4 shows the Nine Stars together with the *xing* 行 to which they belong and their special synonyms where applicable.

Table 4.4

Nine Stars	xing	*Meteorological synonyms*
Tianzhu (Celestial Pillar)	*Metal*	*Yushi* 雨師 (Rain Master)
Tianying (Celestial Elegance)	*Fire*	*Dianshan* 電閃 (Lightning Flash)
Tianfu (Celestial Supporter)	*Wood*	*Fengbo* 風伯 (Wind Elder)
Tianchong (Celestial Clash)	*Wood*	*Leigong* 雷公 (Venerable Thunderer)
Tianpeng (Celestial Vagabond)	*Water*	*Shuishen* 水神 (Water Spirit)
Tianxin (Celestial Heart)	*Metal*	(forecasting snow)

To forecast rain, for example, one method was to search for the Rain Master (*Metal*) together with one of the two *Water* stem radicals, *ren* and *gui*, on the heaven board and directly above one of the two *Metal* stem radicals, *geng* and *xin*, or the *Metal* Trigram *dui* 兑 on the earth board. Under such conditions, *Water* is produced both by *Metal* in the sky and on earth, resulting in rain. In Figure 4.5 the Rain Master *Metal* Tianzhu in *gen* Palace Eight has no *Water* to produce and hence there would not be rain.

To forecast snow, the Rain Master would be substituted by Tianxin (Celestial Heart), the *Metal* nature of which would produce snow under the same conditions as above. In Figure 4.5 *Metal* Tianxin in *zhen* Palace Three again has no *Water* to generate on the heaven board, and hence snow would not be expected.

The *Water* Celestial Vagabond in the same position as either the *Water* Trigram *kan* or the *Metal* Trigram *dui* on the heaven board and directly above one of the two *Water* stem radicals *ren* and *gui* on the earth board would produce cloud, mist and fog. In Figure 4.5 the Water Vagabond Tianpeng is in *sun* Palace Four and does not satisfy the conditions for cloud, mist and fog.

For wind, the *Wood* Wind Elder must meet on the heaven board a branch radical in one of the two phases of prosperity (*wang* 旺) and accordance (*xiang* 相). There were various definitions for the terms on the different phases of the *wuxing*, in one of which prosperity referred to the state when the branch radical concerned was generated by the branch radical of the month.[19] There would be accordance when it belonged to the same *xing* as the branch radical of the month. To produce wind, the *Wood* Wind Elder has to be in the same palace on the heaven board as the *Fire* Trigram *li* that it would generate and, at the same time, there had to be something on the earth board directly below that the Wind Elder could dominate, such as the *Earth* Trigrams *kun* 坤 or *gen* 艮 and the *Earth* stem radicals *wu* or *ji*. In Figure 4.5 the Wind Elder Tianfu is in *dui* Palace Seven, the branch *zi Water* in *jiazi* concealed in *wu* is subjugated by *chen Earth*, the branch for the third lunar month, and hence it is neither in a phase of prosperity nor in a phase of accordance. None of the other conditions for wind is satisfied either.

For lightning, the *Fire* Fire Spirit Tianying would be over a branch radical in a phase of either prosperity or accordance, situated in the same palace on the heaven board as either one of the two *Wood* Palaces Three and Four, and above one of the *Metal* stem radicals *geng* and *xin*. In Figure 4.5 Tianying is over *yin Fire*, which generates *chen Earth*, the branch of the third lunar month, instead of being generated. Thus it is not in a phase of prosperity nor accordance. There is no lightning although *geng Metal* is found on the earth board.

The Venerable Thunderer *Wood* Tianchong requires more *Wood* on the heaven board (presumably to produce a loud sound, beating against each other) and *Metal* on the earth board to produce thunder. Should the Fire

Spirit and the Venerable Thunderer both dominate over the *Metal* stem radicals *geng* and *xin* and the *Earth* stem radicals *wu* and *ji* in the day and double-hour, there would be lightning and thunder. In Figure 4.5 Tianchong cannot find another *Wood* on the heaven board nor *Metal* on the earth board indicating that there is not going to be thunder.

Predictions of mundane affairs – money matters

While it is not the purpose here to put emphasis on the applications of *shushu* to divination on human affairs, at least a brief mention is called for to give a fuller picture of the *Qimen Dunjia* method and to show its attraction in traditional Chinese society. The method could be applied to almost every aspect of human activity, including travelling, doing business, marriage, birth, sickness, taking examinations, employment, legal matters, etc. It suffices here to give only one illustration that concerns money matters. The Gate of Life/Production deserves special attention in all cases where wealth is involved. If the palace on the heaven board it is sitting on is producing wealth, giving rise to a phase of prosperity (*wang* 旺) or is supporting it in a phase of accordance (*xiang* 相) and, at the same time, one of the auspicious stars among the 'Nine Stars' and one of the Three Distinguished-Ones *yi*, *bing* or *ding* are also found within the same palace, flourishing business and huge profit can be expected. Absence of these auspicious signs means average profit. The Gate of Life in a phase of imprisonment or death and in the presence of an ominous star would spell great loss suffered by the business. In the case of partnership where two companies are merging, the palace on which the Life Gate sits on the earth board represents the host company, while the palace on the heaven board on which the Life Gate sits represents the joining company. The partnership will be a failure when one palace subjugates the other. The palace on the heaven board producing (or giving life to) (*sheng* 生) that on the earth board is a good sign for both, but favouring the host company. The palace on the earth board favouring that on the heaven board is ideal for both.

Epilogue

Of the three cosmic board systems, the name *Qimen Dunjia* received the most publicity in Chinese novels, particularly the *Sanguo yanyi* (Romance of the Three Kingdoms), but precious little about it can be found in recorded history. One seldom hears about the practice of this art nowadays. One might think that it must have by now become obsolete, especially with the advancement of modern military science. However, the large number of reprinted editions of books on this subject should reflect the demand from fervent readers and practitioners of the art who are quite unbeknown to us. I had two interesting encounters to show that the art is still alive, albeit in secret in keeping with tradition. I once demonstrated the operation of *Qimen*

Dunjia at a public lecture in Singapore and skipped over the description of the four different processes of *zhengshou* (direct proclamation), *chaoshen* (exceeding spirit), *runqi* (intercalation of the extraordinary) and *jieqi* (connecting fortnightly period). During question time one member of the audience politely enquired about the importance of these four processes. I answered the question and added that I purposely avoided the issue due to time pressures. On another occasion, the Needham Research Institute had a visitor from Taiwan shortly before I was due to do a text-reading session relating to *Qimen Dunjia* at which I would demonstrate the operation of the cosmic boards using a modern replica produced in Taiwan.[20] I showed my exhibit to my visitor. To my astonishment he pointed to the name of the maker written on the exhibit, saying that he was one of his university teachers. Hence *Qimen Dunjia* still thrives among Chinese communities of today, although not exactly for the purpose it was originally intended.

5

LIUREN

The art of the six *Yang Waters*

The English title for this chapter is a literal translation of the term *Liuren*, but it does not convey its full meaning. In some colloquial Chinese dialects, such as Cantonese, it gives an impression of a scheme or some sort of a plot being under way. This is an example of a term that is popularly known, but in name only. A translation capable of expressing the full sense and meaning here would probably be too lengthy to qualify as a title. Hence, in the text *Liuren* is left alone without being translated as in, for example, Kalinowski (1983).[1] As an arcane art, only very few people acquired it. Among those knowledgeable in the art of *Liuren* were members of the Astronomical Bureau in traditional China. We shall begin by looking at some notes on this subject written by an eminent member of the Bureau in eleventh-century China. As the *literati* in traditional China found difficulties in apprehending the passages in question, comments and explanations are rarely come by. Annotations are provided here along with a full translation to make the text comprehensible.

Three passages on *Liuren* by Shen Gua

Shen Gua 沈括 (1031–1095), whom Joseph Needham credited as 'one of the most widely interested scientific minds which China produced in any age', wrote the *Mengxi bitan* 夢溪筆談 (Dream Brook Essays) in about the year 1086.[2] This book has attracted considerable attention among Sinologists and scholars of the history of East Asian science.[3] One of its sections on symbolic numerology (*xiangshu* 象數) contains some of the knowledge developed by Shen Gua as a former senior staff member of the Astronomical Bureau.[4] It includes three passages concerning the *Liuren* 六壬 cosmic board system that comes immediately after the first passage on the *Dayan* 大衍 calendar method of the Kaiyuan 開元 reign-period in Tang China. The first of these three passages (see Figure 5.1) reads:[5]

> With regard to the (spirits of the) twelve terrestrial branches in the heavens (*tian shier shen* 天十二神) in the system of *Liuren*, *hai* 亥 is called *Dengming* 登明 (Ascending Brightness) and is the general of

the first lunar month, while *xu* 戌 is called *Tiankui* 天魁 (Heavenly Leader), being the general of the second lunar month. People in the past referred to the *heshen* 合神 (Matching Spirits) as well as 'the sun passing by the palace' (*Taiyang guo gong* 太陽過宮). *Heshen* meant that in the first lunar month (when Counter-Jupiter was at the terrestrial branch) *yin* 寅 it matched (Jupiter when the latter reached the terrestrial branch) *hai* 亥, in the second lunar month (when Counter-Jupiter was at the terrestrial branch) *mao* 卯 it matched (Jupiter when the latter reached the terrestrial branch) *xu* 戌, and so forth. (Whereas the term) '*Taiyang guo gong*' referred to the position of the sun at (Jupiter-station) *Zouzi* 諏訾 in the first lunar month, shifting to (Jupiter-station) *Jianglou* 降婁 in the second lunar month, and so forth. These two phenomena corresponded to each other (only) at the time when the calendar of the (ancient) Emperor *Zhuan (xu)* 顓頊 was adopted.[6] (But) they do not correspond to each other nowadays, because the movement of the sun follows the ecliptic and varies according to the precession of the equinoxes.[7] In our present days, Jupiter reaches (Jupiter-station) *Zouzi* only after the *Yushui* 雨水 (about February 19) fortnightly period, and reaches (Jupiter-station) *Jianglou* only after *Chunfen* 春分 (vernal equinox – about March 20). If (the method of) *heshen* (Matching Spirits) is applied in this case, from the day of vernal equinox the *hai* general should be used, and from the day of the *Jingzhi* 驚蟄 fortnightly period (about March 5) the *xu* 戌 general should be used. (Hence) if we go by the sun's movement, it does not correspond with *heshen* (i.e. matching Counter-Jupiter and Jupiter such that *yin* 寅 matches *hai* 亥, *mao* 卯 matches *xu* 戌, *chen* 辰 matches *you* 酉 and so on, implying that Counter-Jupiter is out of alignment with Jupiter's movement). (Conversely) if we use *heshen* (Jupiter's movement) it will not correspond with the sun's movement. Logically speaking, in (the process of) casting (the four) divinations (in the *Liuren* operation) the (relevant) monthly general must be allocated to the proper time. Hence one should follow the passage of the sun over the palaces (i.e. the sun's movement along the ecliptic). If the movement of the sun over the Jupiter-stations is not accounted for then there will be no agreement in celestial motion with movements of the sun, the moon, the Five Planets, the sexagenary cycle and the 28 lunar mansions on any particular day and time.[8] Therefore one should bear in mind to take account of the movements of the sun (for the *Liuren* system). Matter does not rest here, because the same reasoning should be extended to affect the marking of the beginning of a lunar month by naming that lunar month after a terrestrial branch (*yuejian* 月建). If we observe the Ladle of the Plough the hour of dusk already shows discrepancy. *Yuejian* (– the first day of a lunar month –) should

> follow the sun's position along the ecliptic to take into account the precession of the equinoxes. At the present moment the beginning of the (first lunar month by naming it after) *yin* 寅 should only take place one day after the *Yushui* fortnightly period (about February 19), the beginning of the (second lunar month by naming it after) *mao* 卯 four days after the vernal equinox (*Chunfen*) (about March 20), the beginning of the (third lunar month by naming it after) *chen* 辰 five days after the *Guyu* 穀雨 fortnightly period (about April 20), and so on. Agreement with (the movements of) the sun can only be found by this means, and the two sayings (mentioned above) would again merge and become one. However, (to do this) it is necessary to make major changes to the (present) calendar system and make corrections to every detail. For example, the seven lunar mansions of *Canglong* 蒼龍 (Azure Dragon) in the East should begin with (the lunar mansion) *Kang* 亢 and end with (the lunar mansion *Nan*) *dou* 南斗, the seven lunar mansions of *Zhuque* 朱雀 (Crimson Bird) in the South should begin with (the lunar mansion *Qian*) *Niu* 牽牛 and end with (the lunar mansion) *Kui* 奎, the seven lunar mansions of *Baihu* 白虎 (White Tiger) in the West should begin with (the lunar mansion) *Lou* 婁 and end with (the lunar mansion) *Yugui* 輿鬼 and the seven lunar mansions of *Zhenwu* 真武 (Real Warrior) in the North should begin with (the lunar mansion) *Dongjing* 東井 and end with (the lunar mansion) *Jue* 角. In this way not only the *Liuren* system but also the calendar (itself) will be correct.

The theoretical discussion in the above passage emphasizes the dependence of the *Liuren* system on accurate astronomical observations while pointing out the inaccuracy of the current calendar. From what it says, we are informed that in the past the operation of the *Liuren* system was based on the Jupiter cycle as well as on the position of the sun in the ecliptic. The matching of the positions of Counter-Jupiter and those of Jupiter, both expressed in branches mentioned by Shen Gua in the above paragraph, is given much earlier by Sima Qian 司馬遷 in the *Shiji* 史記.[9] Taking the case of the *Zouzi* station mentioned in the text, at the time of Chen Zhuo 陳卓 in the third century it extended from 16 *du* 度 from the determinant star of the 12th lunar mansion *Wei* to 4 *du* from the determinant star of the 15th lunar mansion *Kui*, while during the time of Yixing in the eighth century it extended from 13 *du* of *Wei* to 4 *du* of *Kui* (where l *du* is approximately 1 degree when converted to angular measurements). Shen Gua observed that working on these two different data yielded different results and suggested a major calendar reform to restore agreement. History tells us that his dream was never realized. Yu Zhengxie 俞正燮 said in his *Guisi leigao* 癸巳類稿, 'All systems ought to follow the movements of the heavens to seek harmony, but not to make rules to change the movements of the heavens' (*fan shu dang shun*

tian yi qiu he, bu ke wei fa yi gai tian 凡術當順天以求合, 不可為法以改天) when he criticized those who suggested changes.[10] Operators of the *Liuren* cosmic board have come to use the 24 fortnightly periods, i.e. 24 positions of the sun along the ecliptic for the day when the calculation is performed, while retaining the ancient Counter-Jupiter cycle to determine the deity at the time. It is interesting from the point of view of the history of Chinese astronomy and history of the *Liuren* method to note that Shen Gua had already remarked on the Jupiter-Stations, and hence the system of the naming of the year after the imaginary positions of Counter-Jupiter by using the branches was already out of step with the calendar during the eleventh century.

We must now return to the *Mengxi bitan*. The second paragraph reads:

> With regard to the names (of the spirits) of the twelve terrestrial branches in the heavens (*tian shier chen* 天十二辰) people in the past explained their meanings as follows.
>
> In the first lunar month the *qi* of *Yang* begins to establish itself and calls upon the myriad things. Hence came the name *Dengming* 登明 (Spirit of Ascending Brightness).[11] In the second lunar month (new) vegetation sprouts forth.[12] Hence originated the name *Tiankui* 天魁 (Leader towards the Heavens). In the third lunar month flowers and leaves follow sprouting. This explains the name *Congkui* 從魁 (Follower of the Leader). In the fourth lunar month the *qi* of *Yang* reaches its maximum and has nothing more to transmit, giving rise to the name *Quansong* 傳送 (Spirit who bids farewell to the end of transmission of the *qi* of *Yang*). In the fifth lunar month vegetation surpasses in luxuriance since its growth. Hence it gets the name *Shengxian* 勝先 (Winner over all his Predecessors). In the sixth lunar month the myriad things show some sign of prosperity, resulting in the name *Xiaoji* 小吉 (Spirit of Minor Prosperity). In the seventh lunar month the hundred crops bear grains and come to their own, thus receiving the name *Taiyi* 太一 (Great One).[13] In the eighth lunar month branches and stems (of trees) harden. Hence came the name *Tiangang* 天罡 (Celestial Firmness). In the ninth lunar month wood from the trees can serve as timber for poles and pillars, and hence that month is known as *Daichong* 太衝 (Grand Supporter).[14] In the tenth lunar month the myriad crops are in harvest (and it is time) to keep accounts on profits. Thus came the name *Gongcao* 功曹 (Recorder of Merits). In the eleventh lunar month beginning with (the terrestrial branch) *zi* 子, the Head of State returns to his seat. This explains the term *Daji* 大吉 (Great Auspices). In the twelfth lunar month sweet wine is prepared to offer as thanksgiving to the hundred spirits. Thus we get the name *Shenhou* 神后 (Spirit Sovereign).

All these sayings are most absurd (without any) reasoning and basis. My (own) interpretations are as follows.

For (the term) *Dengming* (Spirit of Ascending Brightness), three *Yang* (lines) first appear (in the *Tai* 泰 Hexagram) below upon the earth, (as what the *Yijing* says that) 'the dragon appears in the farm'.[15] *Tiankui* (Heavenly Leader) is the first star in the head (i.e. the 'Box') of the Plough. The first star of the Plough reaches the point (indicated by the terrestrial branch) *xu*. This was how the name *Tiankui* was derived. *Congkui* (Follower of the Leader) is the second star in the head (i.e. 'Box') of the Plough and reaches the point indicated by (the terrestrial branch) *you*. This explains the origin of the name *Congkui*. (As for) *Zhuansong* (Spirit transmitting and bidding farewell), in the fourth lunar month (the *qi* of) *Yang*, having reached its maximum, is about to recede and soon give birth to one line of *Yin*.[16] Therefore *Yin* is transmitted to bid farewell to the *Yang* line (at the bottom of the Hexagram) to explain its name. In *Xiaoji* (Minor Auspices) at the *qi* of the summer solstice (at the fifth lunar month) the Big One (i.e. the single *Yang* line at the bottom of the *qian* Hexagram) has gone and is replaced by the arrival of the Small One (referring to the single *Yin* line at the bottom of the *gou* 姤 Hexagram), signifying that the way of the common people prevails.[17] Hence it refers to matters concerning wedding and feasting. (The spirit of the sixth lunar month gets the name) *Shengxian* (First Winner), because the king rules facing (south), from which direction the light comes to render the myriad things visible. Nothing can excel or be better than (in this position). (That the spirit of the seventh lunar month is called) *Taiyi* owes to the fact that the *Taiwei* 太微 Enclosure is where (the deity) *Taiyi* abodes.[18] *Tiangang* (Heavenly Ladle), (the spirit of the seventh lunar month, is known) after the Ladle of the Plough (*Dougang* 斗剛), which begins at this point of the year.[19] (The spirit of the ninth lunar month) *Taichong* (Grand Thoroughfare) is the doorway where the Five Planets emerge, being a thoroughfare of the heavens. *Gongcao* (Recorder of Merits) (, the name of the spirit) of the tenth lunar month (comes from the time) when labour for the year results in the harvest and the keeping of books to account for profits and expenditures. *Daji* (Great Auspices) is so called because at the *qi* of the winter solstice (in the eleventh lunar month) the Small One (i.e. *Yin* line) gives way to a Big One (i.e. a *Yang* line).[20] The way of the princely one prevails and hence it is auspicious to those in authority. This refers to matters concerning senior civil and military officers. The twelfth lunar month is the position of *zi* 子.[21] It is where the deity *Shangdi* 上帝 (High Deity) dwells.[22] *Shenhou* 神后 (Deity Sovereign) is the title given to the sovereign deity.

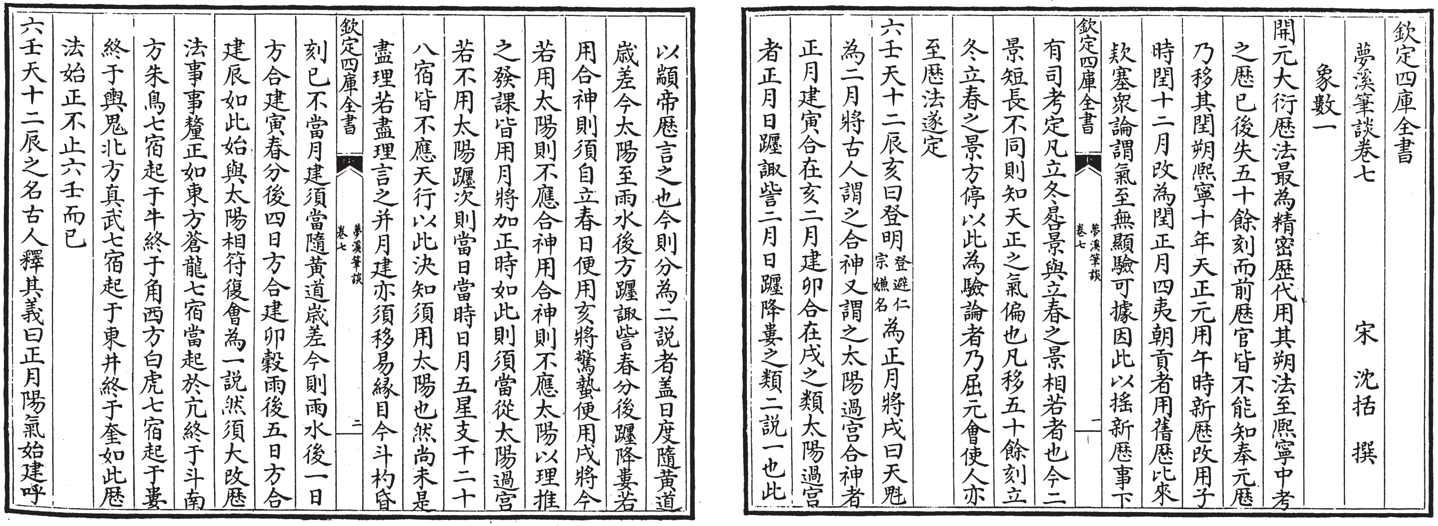
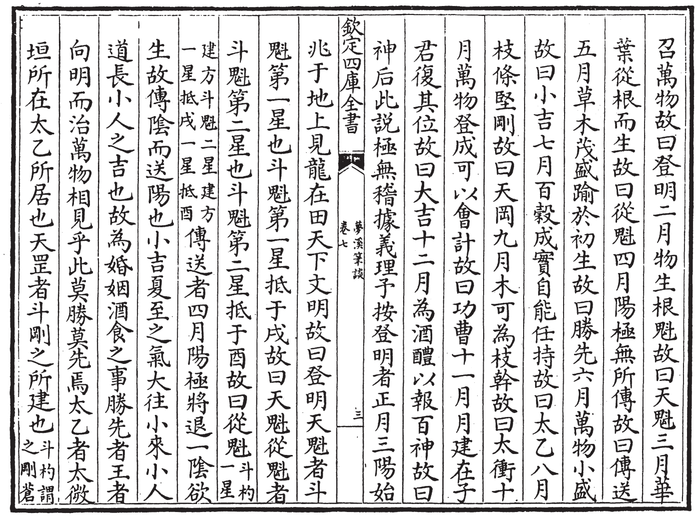

欽定四庫全書
夢溪筆談卷七
宋 沈括 撰
象數一
開元大衍歷法最為精密歷代用其朔法至熙寧中考
之歷已後失五十餘刻而前歷官皆不能知奉元歷
乃移其閏朔熙寧十年天正元用午時新歷改用子
時閏十二月改為閏正月四夷朝貢者用舊歷比來
款塞衆論謂氣至無顯驗可據因此以搖新歷事下
欽定四庫全書 夢溪筆談 卷七
有司考定凡立冬晷景與立春之景相若者也今二
景短長不同則知天正之氣偏也凡移五十餘刻立
冬立春之景方停以此為驗論者乃屈元會使人亦
至歷法遂定
六壬天十二辰亥曰登明（避仁宗嫌名）為正月將戌曰天魁
為二月將古人謂之合神又謂之太陽過宮合神者
正月建寅合在亥二月建卯合在戌之類太陽過宮
者正月日躔諏訾二月日躔降婁之類二說一也此
以顓帝歷言之也今則分為二說者蓋日度隨黃道
歲差今太陽至雨水後方躔諏訾春分後躔降婁若
用合神則須自立春日便用亥將驚蟄便用戌將今
若用太陽則不應合神用合神則不應太陽以理推
之發課皆用月將加正時如此則須當從太陽過宮
若不用太陽躔次則當日當時日月五星支干二十
八宿皆不應天行以此決知須用太陽也然尚未是
盡理若盡理言之并月建亦須移易緣目今斗杓昏
欽定四庫全書 夢溪筆談 卷七 二
刻已不當月建須當隨黃道歲差今則雨水後一日
方合建寅春分後四日方合建卯穀雨後五日方合
建辰如此始與太陽相符復會為一說然須大改歷
法事事釐正如東方蒼龍七宿當起於亢終于斗南
方朱鳥七宿起于牛終于角西方白虎七宿起于婁
終于輿鬼北方真武七宿起于東井終于奎如此歷
法始正不止六壬而已
六壬天十二辰之名古人釋其義曰正月陽氣始建呼

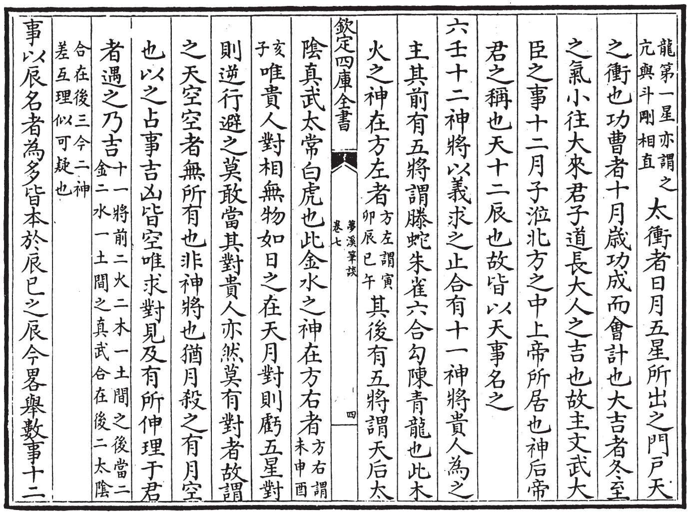
Figure 5.1 Passage on the *Liuren* from *Mengxi bitan*, ch. 7 [*Qinding siku quanshu* edition].



召萬物故曰登明二月物生根魁故曰天魁三月華
葉從根而生故曰從魁四月陽極無所傳故曰傳送
五月草木茂盛踰於初生故曰勝先六月萬物小盛
故曰小吉七月百穀成實自能任持故曰太乙八月
枝條堅剛故曰天罡九月木可為枝幹故曰太衝十
月萬物登成可以會計故曰功曹十一月月建在子
君復其位故曰大吉十二月為酒醴以報百神故曰
神后此說極無稽據義理予按登明者正月三陽始

欽定四庫全書 夢溪筆談 卷七 三

兆于地上見龍在田天下文明故曰登明天魁者斗
魁第一星也斗魁第一星抵于戌故曰天魁從魁者
斗魁第二星也斗魁第二星抵于酉故曰從魁(斗杓一星
建方斗魁二星建方一星抵戌一星抵酉)傳送者四月陽極將退一陰欲
生故傳陰而送陽也小吉夏至之氣大往小來小人
道長小人之吉也故為婚姻酒食之事勝先者王者
向明而治萬物相見乎此莫勝莫先焉太乙者太微
垣所在太乙所居也天罡者斗剛之所建也(斗杓謂之剛蒼)



(龍第一星亦謂之亢與斗剛相直)太衝者日月五星所出之門戶天
之衝也功曹者十月歲功成而會計也大吉者冬至
之氣小往大來君子道長大人之吉也故主文武大
臣之事十二月子泣北方之中上帝所居也神后帝
君之稱也天十二辰也故皆以天事名之
六壬十二神將以義求之止合有十一神將貴人為之
主其前有五將謂螣蛇朱雀六合勾陳青龍也此木
火之神在方左者(方左謂寅卯辰巳午)其後有五將謂天后太

欽定四庫全書 夢溪筆談 卷七 四

陰真武太常白虎也此金水之神在方右者(方右謂未申酉
亥子)唯貴人對相無物如日之在天月對則虧五星對
則逆行避之莫敢當其對貴人亦然莫有對者故謂
之天空空者無所有也非神將也猶月殺之有月空
也以之占事吉凶皆空唯求對見及有所伸理于君
者遇之乃吉(十一將前二火二木一土間之後當二金二水一土間之真武合在後二太陰
合在後三今二神差互理似可疑也)
事以辰名者為多皆本於辰巳之辰今畧舉數事十二

Figure 5.1 (cont'd)

The second passage gives the names of 12 deities associated with each of the 12 lunar months. In the first lunar month is the terrestrial branch *hai* deity *Dengming*, in the second the *xu* deity *Tiankui*, etc., as shown in Table 5.1.

Table 5.1

hai	*Dengming*	first month, after *Yushui* to *Chunfen*
xu	*Tiankui*	second month, after *Chunfen* to *Guyu*
you	*Congkui*	third month, after *Guyu* to *Xiaoman*
shen	*Zhuansong*	fourth month, after *Xiaoman* to *Xiazhi*
wei	*Shengxian*	fifth month, after *Xiazhi* to *Dashu*
wu	*Xiaoji*	sixth month, after *Dashu* to *Chushu*
si	*Taiyi*	seventh month, from *Chushu* to *Qiufen*
chen	*Tiangang*	eighth month, from *Qiufen* to *Shuangjiang*
mao	*Taichong*	ninth month, from *Shuangjiang* to *Xiaoxue*
yin	*Gongcao*	tenth month, from *Xiaoxue* to *Dongzhi*
chou	*Daji*	eleventh month, from *Dongzhi* to *Dahan*
zi	*Shenhou*	twelfth month, from *Dahan* to *Yushui*

The nineteenth-century scholar Yu Zhengxie 俞正燮 discussed the 12 deities at considerable length in his *Guisi leigao* 癸巳類稿. Some may regard the 12 deities of the terrestrial branches as real spirits. Others, like the neo-Confucians, may regard the 12 deities of the terrestrial branches simply as different states of *qi*. Detailed description of the appearance and character of each individual deity is given in the *Liuren daquan* 六壬大全 (Complete Book on the *Liuren*).[23] For example, the *Daichong* deity is said to have a long, blue and bearded face with a high brow, a tall and slender figure, to be rather cunning and unorthodox in his actions, to be originally a musician in ancient time, to have under his control inns for stagecoaches, horses, boats and carriages, and so forth. On the other hand there were others, like the neo-Confucians, who thought of them merely as terms expressing the different state of *qi* in the heavens resulting from the movement of the sun along the ecliptic. In any case, it is to be noted that deities (*shen* 神) in the Chinese mind were less supernatural or divine than their counterparts in Western culture. They were not omnipotent, not omnipresent, and were fallible, without immunity from misconduct against the natural law and for which they would also pay for the consequences. In the *Liuren* operation, the object of the exercise was to locate the deity present on that very day so that further steps could be taken to contact and to receive messages from him – everything being carried out by calculations on the cosmic boards. The *Liuren* cosmic boards comprise a heaven board (*tianpan* 天盤) and an earth board (*dipan* 地盤). The heaven board rotates, while the earth board remains stationary. The 12 terrestrial branches are arranged on these two boards as shown in Table 5.2.

Referring to Figure 5.1, the day on which the boards are manipulated can be checked against the fortnightly period in which it occurs to give the

Table 5.2

si	*wu*	*wei*	*shen*	*si*	*wu*	*wei*	*shen*
chen			*you*	*chen*			*you*
mao			*xu*	*mao*			*xu*
yin	*chou*	*zi*	*hai*	*yin*	*chou*	*zi*	*hai*
earth board (fixed)				heaven board (rotating)			

deity present, expressed in terms of its terrestrial branch. This is the terrestrial branch on the heaven board.

To find the terrestrial branch on the earth board the operator asks the enquirer to make a spontaneous selection of one of the 12 branches. Ideally, the response should come instantly without thinking. As this may be difficult, an alternative method is to draw from a container holding 12 sticks made from a lightning-struck branch of a jujube tree and each marked with a different terrestrial branch. The answer gives the terrestrial branch on the earth board. The first step in manipulating the *Liuren* boards is to rotate the heaven board such that the terrestrial branch noted above overlaps the branch on the earth board, obtained either through the enquirer or taken at random from a bundle of lightning-struck jujube wood sticks with each of the different branches written on individual sticks.

We notice two different components in the initial steps of manipulating the *Liuren* cosmic boards. The first concerning the heaven board is strictly scientific and is based on observations of the sun's movement. Modern scholars may interpret the second as the normal operation of the law of chances, but it may have more to suggest to the anthropologist or to those interested in para-psychological research on the sensory frontier of the human mind.[24] The deity being already located, contact is then made by bringing together with it what is obtained from something like the 'sixth sense' of the enquirer who has a personal connection and interest on the subject. A lightning-struck branch of a jujube tree already has previous contact with something from the above, and perhaps it was believed that it could make for easier contact with the deities from above.

The third paragraph says:

> There are (twelve spirits of the terrestrial branches known as) twelve *chen* 辰 of the heavens and are named accordingly after matters pertaining to the heavens. There are 12 deity generals (*shenjiang* 神將) in the *Liuren* (system). In the (strict) sense of the word there are only 11 deity generals. They are headed by (the Deity) *Guiren* 貴人 (Noble One). The five generals in front (of *Guiren*) are

Tengshe 螣蛇 (Soaring Serpent), *Zhuque* 朱雀 (Crimson Bird), *Liuhe* 六合 (Six Encompasser), *Gouzhen* 勾陳 (Angular Arranger) and *Qinglong* 青龍 (Azure Dragon) (respectively). Being deities of (either) *Wood* (or) *Fire*, they take their places on the left (of *Guiren*). Behind (*Guiren*) are the five generals known (respectively) as *Tianhou* 天后 (Heavenly Empress), *Taiyin* 太陰 (Ultimate *Yin*), *Zhenwu* 真武 (Real Warrior), *Taichang* 太常 (Minister of Rites), and *Baihu* 白虎 (White Tiger). Being deities of (either) *Metal* (or) *Water*, they take their places to the right (of *Guiren*). Only *Guiren* has nothing in opposition like the sun in the heavens that has none in opposition other than when the moon is in opposition giving rise to an eclipse, or a planet in opposition giving rise to retrogressive movement. Therefore nothing is in opposition to *Guiren*, and the position of opposition is known as *Tiankong* 天空 (Heavenly Void). 'Void' means that there is nothing there and therefore *Tiankong* cannot be a deity general. This is similar to *yuesha* 月殺 (Moon

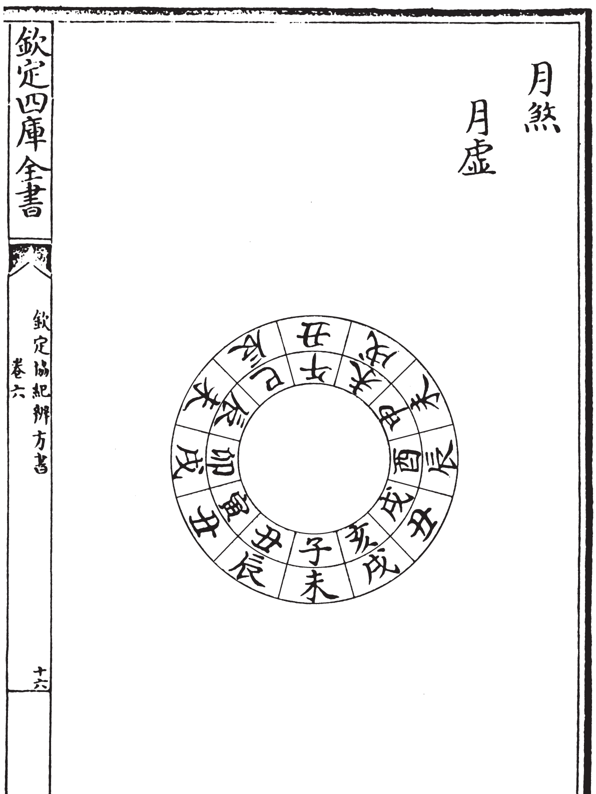


Figure 5.2 Determination of the position for *yuesa*, from *Xieji bianfangshu*, ch. 6; p.16 [*Qinding siku quanshu* edition].

Evil Spirit) with its opposite part *yuekong* 月空 (Moon Void). Its predictions, whether auspicious or ominous, are all void, except in cases where meeting (of the sovereign) is sought for the purpose of seeking redress for miscarriage of justice.

Yuesha, also known as *Yuexu*, was an imaginary evil object found in one of the 12 branches. Its position is governed by the particular branch of the year concerned. For example, if the year branch were one of *shen*, *zi* and *chen*, it would be at the branch *xu* (see Figure 5.2). It played a minor part in the almanac and in the modern *Ziwei doushu* 紫微斗數 system of astrology referred to in Chapter 3, but had nothing to do with the *Liuren* cosmic boards in Song China. According to Huang Yi-Long (1999) *Yuesha* already appeared in the wooden strip manuscripts excavated in 1993 at the Yinwan Han tomb of the first century BC and was used in Chinese calendars until the end of the Yuan dynasty. Similarly, *yuekong* is also not concerned with the *Liuren* cosmic boards. To locate this imaginary body, see Figure 5.3.

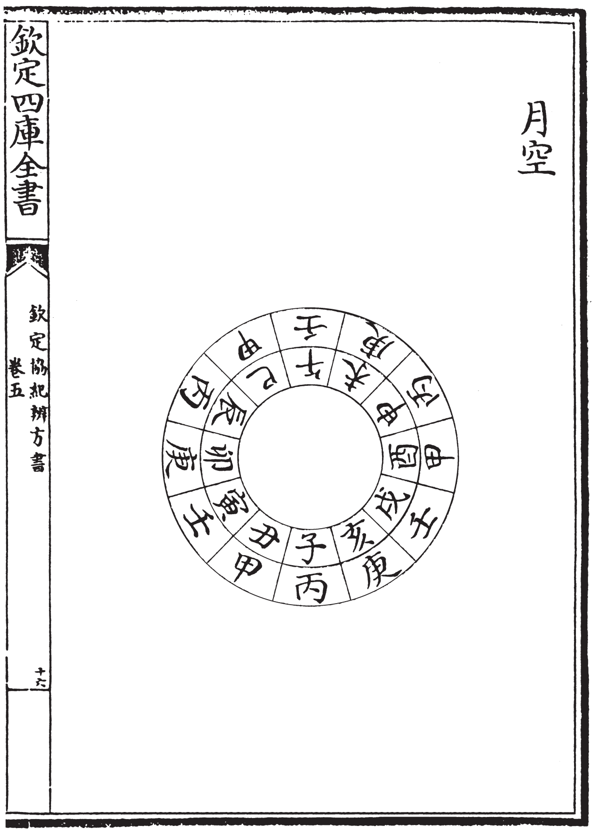


Figure 5.3 Determination of the position for *yuekong*, from *Xieji bianfangshu*, ch. 5; p.16 [*Qinding siku quanshu* edition].

The use of the Hexagrams in Shen Gua's last paragraph to explain astronomical/astrological terms reflects the profound influence of the symbolic numerology school in eleventh-century Song China and justifies the inclusion of his observations of certain points concerning the *Liuren* system in the *xiangshu* section of his *Mengxi bitan*.

First step in manipulating the *Liuren* cosmic board

In the three passages above, Shen Gua concerns himself with the very first and the fundamental step in setting up the *Liuren* cosmic board. He goes into the linguistic as well as the theoretical aspects of the subject. It is not the purpose here to get heavily involved with linguistic arguments concerning the names found in the *Liuren* system that have attracted the attention of traditional scholars from the Han to the late Qing period, spanning a period of some 2,000 years.[25] What is interesting here is that these paragraphs are concerned with the preliminary steps in the manipulation of the *Liuren* cosmic board, beginning with what has already been shown in Table 5.2 above. As an illustration let us see the preliminary steps in the manipulation of the *Liuren* cosmic boards on 4 September 1998, which corresponds to a *jiayin* day in the seventh lunar month that comes before the *Qiufen* fortnightly period. From Table 5.1 we find the branch *si* for the heaven board. Let us suppose that the reported terrestrial branch is in the form of the double-hour *you*. Rotating the heaven board such that its *wu* gets on top of *you* on the earth board produces Table 5.3.

Table 5.3

chou	*yin*	*mao*	*chen*
zi			*si*
hai			*wu*
xu	*you*	*shen*	*wei*

In his third paragraph Shen Gua mentions the 12 heavenly generals. In order to locate them on the heaven board the operator has to commit to memory two mnemonic rhymes to establish the position of *Guiren* (Noble One). Once the position of *Guiren* is found, the other 11 heavenly generals can be placed in their order either in a clockwise or an anticlockwise direction therefrom. The branch on the earth board with the reported hour on the heaven board overhead dictates the direction. For *mao*, *chen*, *si*, *wu*, *wei* and *shen* it is clockwise and the Noble One is known as *Riguiren* 日貴人 (Day Noble One), while for *zi*, *chou*, *yin*, *you*, *xu* and *hai* it is anticlockwise and the Noble One is known as *Yeguiren* 夜貴人 (Night Noble One).[26]

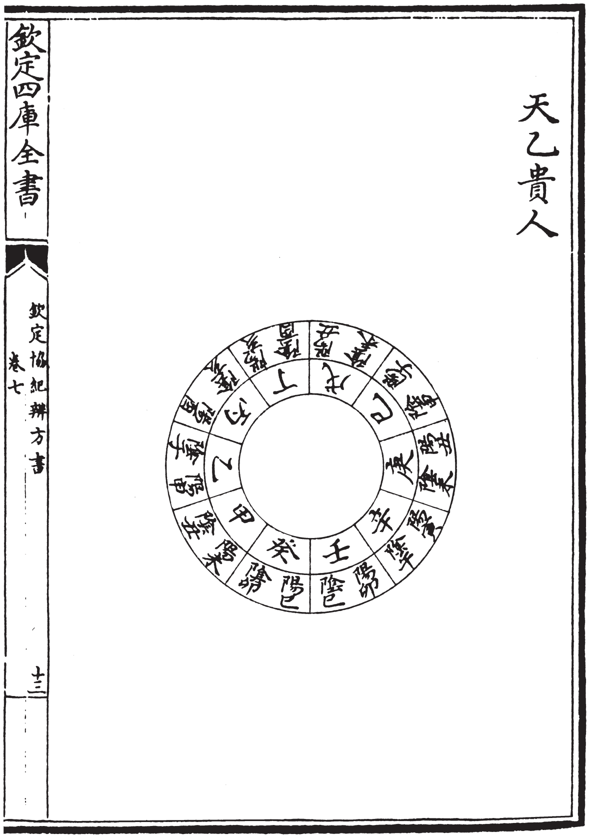


Figure 5.4 Determination of the position for *Tianyi guiren*, from *Xieji bianfangshu*, ch. 7; p.13 [*Qinding siku quanshu* edition].

The rhyme for the Day Noble One says:[27]

> *Jia* for the Goat (*wei*), *wu* and *geng* for the Ox (*chou*), *yi* for the Monkey (*shen*), *ji* for the Rat (*zi*), *bing* for the Cock (*you*), *ding* for the Pig (*hai*), *ren* for the Rabbit (*mao*), *gui* for the Snake (*si*), and the six *xin* meeting the Tiger (*yin*) (are how) the *Yang* Noble (One) seeks company in the daytime.

That for the Night Noble One says:

> *Jia* for the Ox (*chou*), *wu* and *geng* for the Goat (*wei*), *yi* for the Rat (*zi*), *ji* for the Monkey (*shen*), *bing* for the Pig (*hai*), *ding* for the Cock (*you*), *ren* for the Snake (*si*), *gui* for the Rabbit (*mao*), and the six *xin* meeting *wu* the Horse are (how things go with) the *Yin* Noble (One) at night-time.

Actually, a non-practitioner does not need to memorize the two rhymes in order to locate the position of the Noble One. One can easily refer to a chart given in the *Qinding xieji bianfangshu* 欽定協紀辨方書.[28] See Figure 5.4. However, let us follow the steps taken by a practitioner. The reported double-hour *you* on the heaven board is above *chou* on the earth board. Hence one should use the rhyme for the Night Noble One to locate the position of *Guiren*, and anticlockwise movement to arrange the other 11 heavenly generals beginning from a position next to it.[29] Now the stem of the day is *jia*, and from the second rhyme above we find the Ox (*chou*) together with it. The Noble One can now be located at *chou* on the heaven board. Placing the other 11 heavenly generals on the left of the Noble One in the anticlockwise direction, the configuration as shown in Table 5.4 emerges.

Table 5.4 also completes the preliminary steps in the manipulation of the *Liuren* cosmic board. It has located all the heavenly deity generals on the heaven board. However, it is unable to tell anything as yet. The contribution from Shen Gua lies in making interpretations regarding the Heavenly Void, which as he says is not really a deity and, being such, its prediction, whether auspicious or ominous, should be ignored except under very special circumstances when one seeks audience with the emperor hoping for redress. The next steps consist of calculating which of the deity generals are actively involved by the process of *sike* 四課 (Four Prognostications) and to find the messages transmitted from them using the method of *sanquan* 三傳 (Three Messages).

Table 5.4

		Heavenly Empress	Ultimate *Yin*		
Noble One	*chou*	*yin*	*mao*	*chen*	Real Warrior (Sombre Warrior)
Soaring Serpent	*zi*			*si*	Minister of Rites and Rewards
Crimson Bird	*hai*			*wu*	White Tiger
Six Encompasser	*xu*	*you*	*shen*	*wei*	Heavenly Void
		Angular Arranger	Azure Dragon		

The Four Prognostications (*sike* 四課)

To work out the Four Prognostications, the day is used in conjunction with the heaven and the earth boards, the day being expressed with a stem-and-branch combination in the sexagenary cycle. Here again the operator has to

commit to memory a mnemonic song to find a branch where a stem would lodge. It says:

> *Jia* (stem) finds itself in the prognostications given at *yin* (branch), and *yi* (stem) at *chen* (branch). It goes without saying that *bing* and *wu* (stems) are both at *si* (branch). *Ding* and *ji* (stems) are at *wei* (branch), while *geng* (stem) is over *shen* (branch). *Xin* (stem) at *wu* (branch) and *ren* (stem) at *hai* (branch) give the truth. *Gui* (stem) originally sits at the *chou* (branch) palace. One should note clearly that the four cardinal points (*zheng shen* 正神) (*zi*, *mao*, *wu* and *you*) are never used.

To compute the Four Prognostications for the day *guiwei*, first place the day stem usually above the first column of the heaven board to the right and then place the day branch above the third column, leaving one space between it and the stem as shown in Table 5.5.

Table 5.5

	wei		*gui*
chou	*yin*	*mao*	*chen*
zi			*si*
hai			*wu*
xu	*you*	*shen*	*wei*

The stem forms the lower component of the First Prognostication, while the branch forms the lower component of the Third Prognostication. From the mnemonic rhyme above, *gui* is found to lodge at *chou*. Locate *chou* on the earth board and, on the heaven board above, it is *you*. Place *you* above *jia* giving the First Prognostication *you gui*. *You* is next placed between the day stem and the day branch above the second column in the heaven board to form the lower component of the Second Prognostication. Locate *you* on the earth board and look for what is directly above it on the heaven board. This turns out to be *si*, which is then placed over *you* to give the Second Prognostication *si you*. For the Third Prognostication, look for the branch on the heaven board directly above *wei* on the earth board. This is the branch *mao*, which is then placed over *wei* to give the Third Prognostication *mao wei*. Place *mao* over the fourth column of the heaven board next to the branch *wei* to form the lower component of the Fourth Prognostication. From the heaven board find the branch above *mao* on the earth board, giving the branch *zi*, which is then placed above *xu* to give the Fourth

Prognostication *zi mao*. The process of finding the Four Prognostications is now completed, as shown in Table 5.6.

Table 5.6

Four Prognostications				Three Messages
zi	*mao*	*si*	*you*	*xu*
mao	*wei*	*you*	*gui*	
				wu
chou	*yin*	*mao*	*chen*	
				yin
zi			*si*	
hai			*wu*	
xu	*you*	*shen*	*wei*	

By moving back and forth between the earth board and the heaven board, one gets the feeling that the operator was seeking a dialogue between the deities above and himself below. Obtaining the Four Prognostications was as far as Li Ruzhen 李汝珍 (1763?–1830?) went when he demonstrated his knowledge of the *Liuren* method in the guise of a conversation by the talented Meng Yunzhi 孟芸芝 in his novel *Jinghuayuan* 鏡花緣 (Mirror of the Flowers). However, the procedure that the operator has dutifully followed until now does not give him much information on what he wishes to know. He needs to take another step, which can turn out to be rather elaborate, to find the Three Messages (*sanquan*).

The Three Messages (*sanquan*)

The Three Messages are obtained by a close examination of the Four Prognostications. The first aim is to find if the lower component in the First Prognostication controls its upper component according to the principle of mutual control of the *wuxing*. If this is found, then the upper component is taken as the First Message (*chuquan* 初傳). Things do not often turn out that simple. There are cases where a lower component in one Prognostication controls the upper component of another; there may only be cases where one or more upper components control one or more lower components and – in cases of multiple controls – rules of priority have to follow; and there are cases where no control takes place at all. It is unnecessary to lay down all the various rules here since the object of the exercise is only to demonstrate an example of how the Three Messages are found. One does not even need to follow the procedures described above in order to find the earth board and the heaven board, together with the Four Prognostications and the Three Messages. Armed with only the knowledge of the date, the

Table 5.7

		Prognostications	
Fourth	*Third*	*Second*	*First*
Fire wu	*Earth xu*	*Fire wu*	*Earth xu*
Earth xu	*Wood yin*	*Earth xu*	*Wood jia*

reported double-hour and the monthly general, one can look up a reference book on the subject that gives a total of 720 combinations of the Four Prognostications and the Three Messages with different boards for different dates, time and monthly generals. From the *wuxing* relationship of the components of the Four Prognostications shown in Table 5.7 we note that in the First Prognostication *Wood jia* controls *Earth xu* and also in the Third Prognostication *Wood yin* controls *Earth xu*. The First Prognostication involves the day stem and takes precedence over the others. Hence, *xu* in the First Prognostication is taken as the First Message. Referring to the heaven board, the branch over *xu* on the earth board is *wu*, the Second or Intermediate Message (*zhongquan* 中傳). Then, looking up the heaven board for the branch over *wu* on the earth board, we obtain the Last Message (*moquan* 末傳) *yin*. The Three Messages are then written out next to the Four Prognostications and added to Table 5.6.

The manipulation of the *Liuren* boards is now complete. Next come the interpretations. They vary according to the questions asked and the skill of the interpreter. In what follows we shall see some examples of the interpretations and seek to find out their rationale within the fundamental ideas concerning nature in traditional China. The applications of *Liuren* to meteorological forecasting and divination of human affairs would explain why the oldest of the three cosmic boards has survived to the present day, although it is known only to a very few, and why it was claimed that the Song Emperor Renzong took a special interest in this system.

Applications to weather forecasting

The rationale of the *Liuren* method for weather forecasting can be found in the traditional worldview. The relations of the branches and deities with the *wuxing* shown in Table 5.8 and Table 5.9 come into play. For example, when the Rising Serpent or the Vermilion Bird (both of which were of the *Fire xing*) encountered (the *Wood* branch) *mao*, lightning and thunder would be expected. When the *Metal* White Tiger met one of (the *Wood* branches) *yin* or *mao*, (the *Earth* branch) *chen* and (the *Fire* branch) *si*, it would be known as 'the *Tiger* emerging from the *Wood* and crossing the Mountain'. This would be taken as a sign of wind. For rain, the Azure Dragon would be usually watched. When it rode above one of the daytime branches (i.e. *si*, *wu*, *wei*, *shen* and *you*) on the earth board, it was said to be 'hovering

Table 5.8

Terrestrial branch	*Spirit of the Month*	Yin/Yang	xing
zi 子	Monarch Spirit (*Shenhou* 神后)	*Yang*	*Water*
chou 丑	Major Auspices (*Daji* 大吉)	*Yin*	*Earth*
yin 寅	Merits Recorder (*Gongcao* 功曹)	*Yang*	*Wood*
mao 卯	Grand Collision (*Dachong* 大衝)	*Yin*	*Wood*
chen 辰	Heavenly Spirit (*Tiangang* 天罡)	*Yang*	*Earth*
si 巳	Great One (*Taiyi* 太乙)	*Yin*	*Fire*
wu 午	Winning Light (*Shengguang* 勝光)	*Yang*	*Fire*
wei 未	Minor Auspices (*Xiaoji* 小吉)	*Yin*	*Earth*
shen 申	Messenger (*Quansong* 傳送)	*Yang*	*Metal*
you 酉	Aide-de-Camp (*Congkui* 從魁)	*Yin*	*Metal*
xu 戌	River Chief (*Hekui* 河魁)	*Yang*	*Earth*
hai 亥	Rising Brightness (*Dengming* 登明)	*Yin*	*Water*

Table 5.9

Heavenly General	Yin/Yang	xing	*stem*	*branch*
Noble One (*Guiren* 貴人)	*Yin*	*Earth*	*ji*	*chou*
Rising Serpent (*Tengshe* 騰蛇)	*Yin*	*Fire*	*ding*	*si*
Vermilion Bird (*Zhuque* 朱雀)	*Yang*	*Fire*	*bing*	*wu*
Six Encompasser (*Liuhe* 六合)	*Yin*	*Wood*	*yi*	*mao*
Angular Arranger (*Gouchen* 勾陳)	*Yang*	*Earth*	*wu*	*chen*
Azure Dragon (*Qinglong* 青龍)	*Yang*	*Wood*	*jia*	*yin*
Celestial Queen (*Tianhou* 天后)	*Yang*	*Water*	*ren*	*zi*
Ultimate Yin (*Taiyin* 太陰)	*Yin*	*Metal*	*xin*	*you*
Sombre Warrior (*Yuanwu* 元武); (*Xuanwu* 玄武)	*Yin*	*Water*	*gui*	*hai*
Minister of Worship (*Taichang* 太常)	*Yin*	*Earth*	*ji*	*wei*
White Tiger (*Baihu* 白虎)	*Yang*	*Metal*	*geng*	*shen*
Heavenly Void (*Tiankong* 天空)	*Yang*	*Earth*	*wu*	*xu*

Table 5.10

Leishen 雷神 (Thunder god)	*Taichong* (*Wood*)
Fengbo 風伯 (Wind elder)	*Baihu* (*Metal*)
Fengshi 風師 (Wind master)	*Xiaoji*
Yushi 雨師 (Rainmaker)	*Taiyin* (*Metal*)
	Xuanwu (*Water*)
	Dengming
	Tianhou

above in the sky', thus producing rain. On the other hand, if it were to be found with the *Water* branch *zi* or *hai* then 'the Dragon was in the River and Lake' and was not there to bring forth rain from the sky. However, when the Rising Serpent encountered the *Water* branch *zi* or *hai*, it would

transfigure into a dragon that could ride on clouds, forecasting cloudy conditions. Like those in the *Qimen Dunjia* system, some of the *Liuren* deities received names of meteorological gods, such as those shown in Table 5.10.

Meteorological forecasts

Traditionally, meteorological forecasts had never been the main function of the three cosmic boards, although the Astronomical Bureau from the Song to the Mongol Yuan period regularly employed the method of *Liuren* for such purposes. Applications of the *Liuren* method to weather forecasting are given special attention here because of the connection of meteorology with science. We shall begin by taking an actual example from a record noted in Chen Liangmo's 陳良謨 *Liuren zhanyan zhinan* 六壬占驗指南 (Guide to Verifications of *Liuren* Prognostications).[30] This account concerns a 'verified prediction' Chen made on a snowfall observed on the Chinese New Year Eve and New Year Day on January 27 and 28 respectively, in the year 1645. He wrote:

> At the *guiyou* double-hour on a *jiashen* day in the 12th lunar month of a *jiashen* year I passed by Fengyang 鳳陽 (prefecture) and was asked by Shi Hui 施揮, the Commissioner, to spend New Year Eve with him. Seeing an overcast and gloomy sky I (operated the *Liuren* boards) to find out if there would be snow on New Year Day.

From his description the heaven board, the Four Prognostications and the Three Messages can be deduced as in Table 5.11.

Table 5.11

Four Prognostications				Three Messages
yin hai shen si				*shen* (*Metal*) Serpent
hai shen si jia				*hai* (*Water*) Arranger
				yin (*Wood*) Tiger
	Serpent	Bird	Encompasser	Arranger
	shen	*you*	*xu*	*hai*
Noble One	*wei*			zi Dragon
		Heaven board		
Empress	*wu*			*chou* Void
	si	*chen*	*mao*	*yin*
	Taiyin	Warrior	Minister	Tiger

Chen interpreted the Three Messages to make his forecast in the following manner:

> *Shen*, being the mother of *Water*, is the initiating factor of prognostication (*fayong* 發用) and produces *hai Water* in the Second Message. At the same time *shen* is riding upon the Soaring Serpent, forming a double-headed curling motion for snow. Hence there will be snowfall for tonight and tomorrow.

Normally, *shen Metal* above either *hai Water* or *zi Water* would be considered as a preliminary condition for rain. However, the Serpent would not be a sign of rain but, rather, of wind or lightning. Furthermore, the Third Message was riding upon the *Metal* White Tiger, which again would produce *Water*. *Water* would therefore not fall in the form of rain but of snow. The dates were determined from the nearest days with the branches *shen Metal* and *you Metal*, which were the day *jiashen* when the forecast was made and the following day *yiyou*, New Year Day for that particular year in the Chinese calendar. As can be expected, there were no hard and fast rules but only general guidelines with a number of exceptions. If one goes by Zhang Chunzhao's 張純照 *Daliuren xunyuan* 大六壬尋原 (Searching Sources in the Great *Liuren* System), for example, one would use the White Tiger in the Third Message for snow forecasting, following what the book says that 'the White Tiger riding upon *shen* or *yin* is a sign of snow' instead of using the Serpent which the book says to be a sign of 'no rain' or 'lightning'.[31]

Here one can see the relations of the branches and deities with the *wuxing* shown in Table 5.12 and Table 5.13 coming into play. For example, when the Rising Serpent or the Vermilion Bird (both of which were of the *Fire xing*) encountered (the *Wood* branch) *mao*, lightning and thunder would be expected. When the *Metal* White Tiger met one of (the *Wood* branches) *yin* or *mao*, (the *Earth* branch) *chen*, and (the *Fire* branch) *si*, it would be known as 'the Tiger emerging from the wood and crossing the Mountain'. This would be taken as a sign of wind.

Table 5.12

Terrestrial branch	*Spirit of the Month*	Yin/Yang	xing
zi	Monarch Spirit (*Shenhou*)	*Yang*	*Water*
chou	Major Auspices (*Daji*)	*Yin*	*Earth*
yin	Merits Recorder (*Gongcao*)	*Yang*	*Wood*
mao	Grand Collision (*Dachong*)	*Yin*	*Wood*
chen	Heavenly Spirit (*Tiangang*)	*Yang*	*Earth*
si	Great One (*Taiyi*)	*Yin*	*Fire*
wu	Winning Light (*Shengguang*)	*Yang*	*Fire*
wei	MinorAuspices (*Xiaoji*)	*Yin*	*Earth*
shen	Messenger (*Quansong*)	*Yang*	*Metal*
you	Aide-de-Camp (*Congkui*)	*Yin*	*Metal*
xu	River Chief (*Hekui*)	*Yang*	*Earth*
hai	Rising Brightness (*Dengming*)	*Yin*	*Water*

Table 5.13

Heavenly General	Yin/Yang	xing	*stem*	*branch*
Noble One (*Guiren*)	*Yin*	*Earth*	*ji*	*chou*
Rising Serpent (*Tengshe*)	*Yin*	*Fire*	*ding*	*si*
Vermilion Bird (*Zhuque*)	*Yang*	*Fire*	*bing*	*wu*
Six Encompasser (*Liuhe*)	*Yin*	*Wood*	*yi*	*mao*
Angular Arranger (*Gouchen*)	*Yang*	*Earth*	*wu*	*chen*
Azure Dragon (*Qinglong*)	*Yang*	*Wood*	*jia*	*yin*
Celestial Queen (*Tianhou*)	*Yang*	*Water*	*ren*	*zi*
Ultimate *Yin* (*Taiyin*)	*Yin*	*Metal*	*xin*	*you*
Sombre Warrior (*Yuanwu*) (*Xuanwu*)	*Yin*	*Water*	*gui*	*hai*
Minister of Rites (*Taichang*)	*Yin*	*Earth*	*ji*	*wei*
White Tiger (*Baihu*)	*Yang*	*Metal*	*geng*	*shen*
Heavenly Void (*Tiankong*)	*Yang*	*Earth*	*wu*	*xu*

For rain the Azure Dragon was usually watched. When it rode above one of the daytime branches (i.e. *si*, *wu*, *wei*, *shen* and *you*) on the earth board, it was said to be 'hovering above in the sky', thus producing rain. On the other hand, if it were to be found with the *Water* branch *zi* or *hai* then 'the Dragon was in the River and Lake' and was not there to bring forth rain from the sky. However, when the Rising Serpent encountered the *Water* branch *zi* or *hai*, it would transfigure into a dragon that could ride on clouds, forecasting cloudy conditions. Like those in the *Qimen Dunjia* system, some of the *Liuren* deities received names of meteorological gods, as illustrated in Table 5.14.

Table 5.14

Leishen 雷神 (Thunder Deity)	*Taichong* (*Wood*)
Fengbo 風伯 (Wind Uncle)	White Tiger (*Metal*) *Xiaoji*
Fengshi 風師 (Wind Master)	*Taiyin* (*Metal*)
Yushi 雨師 (Rain Master)	Sombre Warrior (*Water*) *Dengming* Heavenly Empress

Prediction of mundane matters

It was in the prediction of mundane affairs that the *Liuren* distinguished itself. Li Ruzhen in his *Jinghuayuan* describes the method as being the same one used by the holy immortals to know about happenings separated by time or distance, while Gao E 高鶚 in his addition to the *Hongloumeng* 紅樓夢 (Dreams of the Red Mansions) implies its superiority over the method of the *Yijing* through a conversation between Jia Rong 賈蓉 and Mao Banxian 毛半仙.[32] As an illustration of the supposed power of the

system, let us make up a story of Chen Liangmo visiting the Commissioner at Fengyang prefecture at exactly the same date and time as mentioned above but, instead of forecasting snow, he was trying to help the Commissioner to solve a case of burglary reported by a member of the Commissioner's household during the course of a dinner party given in his honour. Let us also suppose that his operation on the *Liuren* boards produced exactly the same patterns as shown in Table 5.11 above. He could then have made the following advice to his host:

> *Jia*, the stem of the day when the theft occurred, represents the owner of the stolen object; the Sombre Warrior, representing the burglar, is riding upon *chen* on the heaven board. Directly under *chen* is *chou* on the earth board. *Chou* represents the Deity of Thieves (*daoshen* 盜神). *Chen* indicates that the thief is a bad character in the army or some sort of a servant with big eyes, thick eyebrows, a long and thick beard and an awesome appearance. He normally wears yellow dress and deep red inner garments. His hobby is either fishing or hunting. *Chen Earth* is *Yang* and is at the 12th lunar month represented by *chou Earth*, is in accordance (*xiang* 相) indicating that the thief is a male at his prime. *Chou*, representing the Deity of thieves, gives away the fact that in a built-up place the thief tends to hide in the NE direction near a lavatory, in a temple dedicated to the Wind Elder or Rain-Master if not to a warrior-hero in the past, and in a storage place, and that in an open space the hiding place is in the NE direction somewhere near a bridge, in a farm, if not among the cemeteries. To locate the hiding place for the stolen object, look for the branch that *chou Earth* produces. This is *you Metal*, which tells that the stolen object is hidden near a carved pillar or the city warehouse.
>
> The enforcer of the law is represented by the Angular Arranger who is riding upon *hai Water*, which unfortunately is subjugated by *chen Earth* upon which rides the Sombre Warrior. Hence it will be difficult to apprehend the culprit. If there is any chance of tracking down this thief at all his captor has to be one born on a day with a branch subjugated *chen Earth*, which is either *yin Wood* or *mao Wood*, preferably *yin Wood*.

It is not the purpose of this book to serve as a manual on the three cosmic boards. The details of interpreting the branches, the 12 deities and the 12 heavenly generals according to the varying enquiries are contained in works like the *Daliuren leiji* 大六壬類集 (Collections of Classified [Enquiry] in the Great Art of *Liuren*) and the *Longshoujing* 龍首經 (Dragon's First Manual), found in the *Gujin tushu jicheng* compendium. The minute information provided by the *Liuren* method as in the above example explains its popular attraction.

Incorporation of *Liuren* in other forms of *shushu*

In Chapter 4, mention is made of the incorporation of the *Qimen Dunjia* into the *Liuren* method. Examples can be seen in the '*Dunjia chuanren* 遁甲穿壬' (*Qimen Dunjia* penetrated by *Liuren*) section in the *Gujin tushu jicheng*.[33] The *Liuren* method in its applications to mundane affairs often incorporates into it certain elements of the *Ziping* method of fate-calculation.[34] Let us make up an example concerning money matters.

Money being a very personal matter, the fate of the individual concerned becomes an important factor. Here the day of birth (*riyuan* 日元) is taken into account but, unlike the *Ziping* method that uses the stem, the *Liuren* method takes the branch of the day into consideration. The two branches controlled by the branch of the day of birth are the two Deities of Wealth (*caishen* 財神). One should observe if any of the Deities of Wealth show up in the Four Prognostications. If so, then money will be made on a day indicated by the branch representing this deity. Also observe the presence of the Azure Dragon in the Three Messages and note the branch on which it rides. If this branch produces the branch of the particular day there will be financial gain but, if it controls the branch of the day, then there will be loss. According to the *Daliuren leiji*, to get an answer on financial matters a Deity of Wealth or the Azure Dragon has to appear in the Three Messages or the branch of the day in question. In the absence of any or in their presence together with Heavenly Void, there will be no profit made. It is also important to note the phases the Deities and the Azure Dragon are in when they show up. The phases are determined by the month of the year. Phases of prosperity (*wang*) and accordance (*xiang*) indicate huge profit, while rest (*xiu*) and imprisonment (*chou*) only bring small profit.[35]

Elements from other divinatory methods were sometimes incorporated into the *Liuren* system. For example, the early nineteenth-century text *Liuren xunyuan* includes not only the *zeri* system for selecting auspicious dates but also terms like *Rāhu* and *Ketu* that originated from India.

Military applications

The *Sanguo yanyi* (Romance of the Three Kingdoms) tells the following story about Zhuge Liang applying the *Liuren* method in order to know happenings in a remote battle before the arrival of the report:[36]

> (Liu) Xuande 劉玄德 (i.e. Liu Bei 劉備) and Kongming 孔明 (i.e. Zhuge Liang 諸葛亮) are on the move together with their men and horses. At that time a green banner (suddenly) curls upside-down and a crow flies coming from the north towards the south, cawing three times before leaving. Riding on his horse, Kongming makes prognostications (using his palms and fingers) under his sleeves (*xiu zhan yi ke* 袖占一課) and says, '(It tells that) (the city of)

> Changsha has fallen into our hands and also that we shall gain (the service of) a great warrior. The report will arrive after midday.'

The author of the novel, Luo Guanzhong 羅貫中, has not provided sufficient details to enable us to comment further on the method of divination he refers to, but he has told a fascinating story regarding the deployment of the *Liuren* system in warfare. To find out how the system was applied one can refer to the relevant section of military compendia, such as the last *juan* of Li Quan's *Taibai yinjing*, Zeng Gongliang's *Wujing zongyao* and Mao Yuanyi's *Wubeizhi*.[37] The military section *Junzhangfu* 軍帳賦 of the *Daliuren leiji* in the *Gujin tushu jicheng* gives the fullest information on the applications of *Liuren* in time of war. A couple of examples will suffice as illustration.[38]

On the report of an invasion one should observe the relation between the branches on which the Sombre Warrior and the White Tiger ride and the branch of the day (*riyuan*). If the former subjugates the latter the enemy is strong, indicating that urgent actions for defence are needed. If the branch

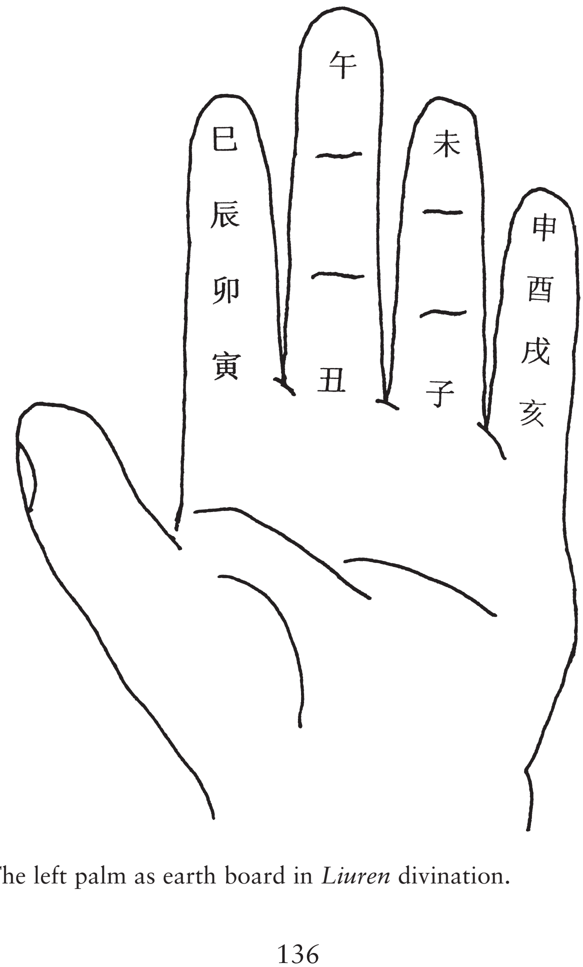


Figure 5.5 The left palm as earth board in *Liuren* divination.

of the day subjugates the branch on which either the Sombre Warrior or the White Tiger rides, then the enemy will be defeated.

The above story about Zhuge Liang gaining knowledge while riding on a horse and about an event that had taken place at a remote location brings out one great advantage of the *Liuren* system over the other two cosmic boards. In one respect, the earth board and the heaven board of the *Liuren* method were far more portable than the other systems (and are even far more portable and much more inexpensive than any palmtop computer manufactured commercially today). The practitioner could simply use his own palms and fingers as the two boards (see Figure 5.5). The divination was literally performed with fingers hidden inside one's sleeves. Chinese novels abound with mentions of '*xiu zhong yi ke*' (a divination done under the sleeves), that Li Ruzhen in his *Jinghuayuan* regards as being how holy immortals get news of happenings in distant places and seek foreknowledge of coming events.

Postscript

As mentioned earlier, the system of *Liuren* was more versatile and more convenient to use on account of its portability than the other two forms of cosmic boards. Some practitioners of the art of fate-calculation supplemented their skill with the *Liuren* system. An example was Yuan Shushan 袁樹珊, the author of several books on fate-calculation and a book on the *Liuren* system and who was one of the most famous diviners operating in Shanghai in the early twentieth century.[39] Some later practitioners of fate-calculations also did likewise. Thus, the *Liuren* system is still practised professionally today among *shushu* experts.

A small minority among the *literati* in traditional China seeking a system more sophisticated than that of the *Yijing* had shown preference for the *Liuren* system. When I was at the National Tsing-Hua University in Hsinchu in early 1991 I had a conversation with Professor Lao Siguang 勞思光 who was visiting the same university to demonstrate to the staff and research students the art of *Liuren*. Professor Lao is a cousin of Professor Lao Kan 勞榦. He informed me that in the early 1930s, when the two cousins both lived in Peking, their parents invited an expert to come to their home to teach them the art of *Liuren* and the *Ziping* method of fate-calculation. Although I knew Professor Lao Kan very much earlier, I had never heard about his knowledge in this field. I was only aware of his reputation as an eminent Chinese scholar. This example goes to show again that *Liuren* is a living art, although it is seldom openly practised or talked about.

It is a convenient point here to conclude the presentation of the three cosmic boards with a story about Yuan to illustrate the subtle difference in attitude on divination between Europe and East Asia. Jeromo Cardano (1501–1576), reputed to be the greatest astrologer in Europe of his time, predicted that his last day would fall on the 21st day of September 1576.

He actually died on that very day, but rumours said that he took matters into his own hands to preserve his reputation.[40] Yuan was among a number of diviners who made predictions about their own fate. In his *Mingli tanyuan* 命理探原, he wrote that he was born of *Wood*, but was surrounded on four directions by *Metal* from the year, month, day and hour of his birth. *Wood* would require *Water* to make it grow and strengthen it while dissipating *Metal* at the same time, or more *Wood* to support it. Alternatively or concurrently, *Fire* could be there to suppress the *Metal*. His prediction was that in the year 1931, on reaching the age of 50, the *Metal* year would become a menace to his life and end his career. Before the time came he wound up his lucrative practice and withdrew from public life to a tiny island at Zhenjiang 鎮江 in Jiangsu province. The fated day passed without incident. Yuan then re-emerged and started his business once again. Nobody criticized him for not dying on the appointed day; instead he became more famous than before for being able to avert calamity by surrounding himself with *Water* in an island to guard against the force of *Metal*.[41] Yuan later went to Taipei where he retired at the age of about 70 with failing eyesight and passed away at the ripe age of over 90. The stories of Cardano and Yuan bring out a contrast between Euclidean rigidity and Daoist malleability applied to interpretations concerning divination.[42] The latter can perhaps answer some questions that one may raise concerning the absolute certainty of predictions made by Chinese traditional divinatory arts, including the three cosmic boards.

APPENDIX I
TRADITIONAL CHINESE ASTROLOGY

In our modern age, what is regarded as Chinese astrology generally refers to fate-calculation. The most sophisticated systems of fate-calculation are the *Ziping* method described in Appendix II and the *Ziwei doushu* method referred to in Chapter 3. Knowledge of astronomy and an ability to identify stars in the night sky are not essential in these methods. Traditional Chinese astrology would however require knowledge of astronomy. Both in Europe and in China, the word 'astronomy' in the past used to include what is now known as 'astrology'. However, while in Europe astronomy and astrology parted company with the coming of the scientific revolution, in traditional China the two never separated from each other and remained together to the very end until their 'astronomy' component was replaced by modern astronomy. Another characteristic of Chinese astrology is that, unlike Western judicial astrology, it did not draw up horoscopes to read the destiny of individuals. This is the traditional astrology contained in the Chinese official histories. A full translation with annotations, additions and amendments of the astronomical chapters in one of the official histories is given in Ho Peng Yoke (1966).[1] As it is only feasible to select some of the many stars and asterisms, together with some of their astrological significance and interpretations for mentioning in this account, those who wish to seek further details may like to refer to the Astronomical Chapters of certain official dynastic histories, such as those of the Jin 晉, Sui 隋, Tang 唐, Song 宋 and Ming 明 dynasties.

Chinese astrologers found correlation between the stars in the heavens and the bureaucrats on earth as well as between celestial regions visible to them and geographical places known to them. Since astrologers were generally in the employment of the emperor or were aspirants for a grant of royal audience, it is not surprising that Chinese astrology evolved round the emperor and personalities and affairs directly connected with him. The Pole Star was thus regarded as the most important star in the heavens. In astronomy it was the reference point from which polar distances of other heavenly bodies were measured and in astrology it symbolized the emperor. Even Confucius himself had made reference to this star. A passage in the *Lunyu* 論語 (Confucian Analects) reads:[2] 'The Master said, "He who

exercises government by means of his virtues may be compared to the North Star, which keeps its place while all stars turn towards it."'

Due to the precession of the equinoxes, different stars during the course of history have played the role of Pole Star. Our present Pole Star is α Ursae Minoris, but in the past other stars found near the path of the Celestial North Pole were assuming this role at different times as the counterpart of the Chinese emperor in the heavens. The Pole Star lies near the centre of the region of perpetual visibility in the northern night sky to people in the northern hemisphere. The asterism close to the North Star and the stars within them represented those around the emperor, like the empress and the imperial concubines, the Crown Prince and other children of the royal family, secretaries and attendants within the palace, the canopy hovering above the throne, the chief justice and the almoner. Two chains of stars, representing the walls surrounding the imperial palace, surround these asterisms. These two chains of stars together with the asterisms they enclose formed the *Ziweiyuan* 紫微垣 (Forbidden Purple Enclosure). Asterisms and stars along as well as immediately outside the walls represented senior members in the civil and military establishments. There the scholars also found a place in the Wenchang 文昌 (Literary Brilliance) asterism, which consisted of six stars in Ursa Major.

Outside the Western Wall of the Forbidden Purple Enclosure lies perhaps the most fascinating and conspicuous constellation in the northern hemisphere. This is the Plough, known variously as the Dipper, the Great Bear, the Bushel, etc. In Chinese, it is the Beidou 北斗 (Northern Ladle) asterism. It consists of seven stars in Ursa Major, with α, β, γ and δ UMa forming the box and ε, ζ and η UMa the handle. Beidou asterism has played a very important role both in Chinese astrology and in Daoist liturgy. An extract from the Astronomical Chapters of the Jin Official Dynastic History says:[3]

> (The famous astrologer) Shi (Shen) 石申 said that the first star . . . symbolizes the emperor, the second star . . . symbolizes the empress, the third star . . . governs internal chaos, the fourth star signifies punishment, the fifth . . . governs the support given by the central authorities to the four quarters to repel invasions, the sixth controls the granaries and the seventh the weapons. It is also said that the first star governs the heavens, the second earth, and the third, fourth, fifth, sixth and seventh stars govern (the *wuxing*) *Fire*, *Water*, *Earth*, *Wood* and *Metal* respectively. It is also said that the first star governs (the State of) Qin 秦 [in modern Shaanxi province], the second Chu 楚 [in modern Hubei, Hunan, Jiangxi and Jiangsu provinces], the third Liang 梁 [in modern Shaanxi province], the fourth Wu 吳 [in modern Jiangsu and Zhejiang provinces], the fifth Yan 燕 [in modern Hebei and Henan provinces], the sixth Zhao 趙 [in modern Shanxi and Hebei provinces] and the

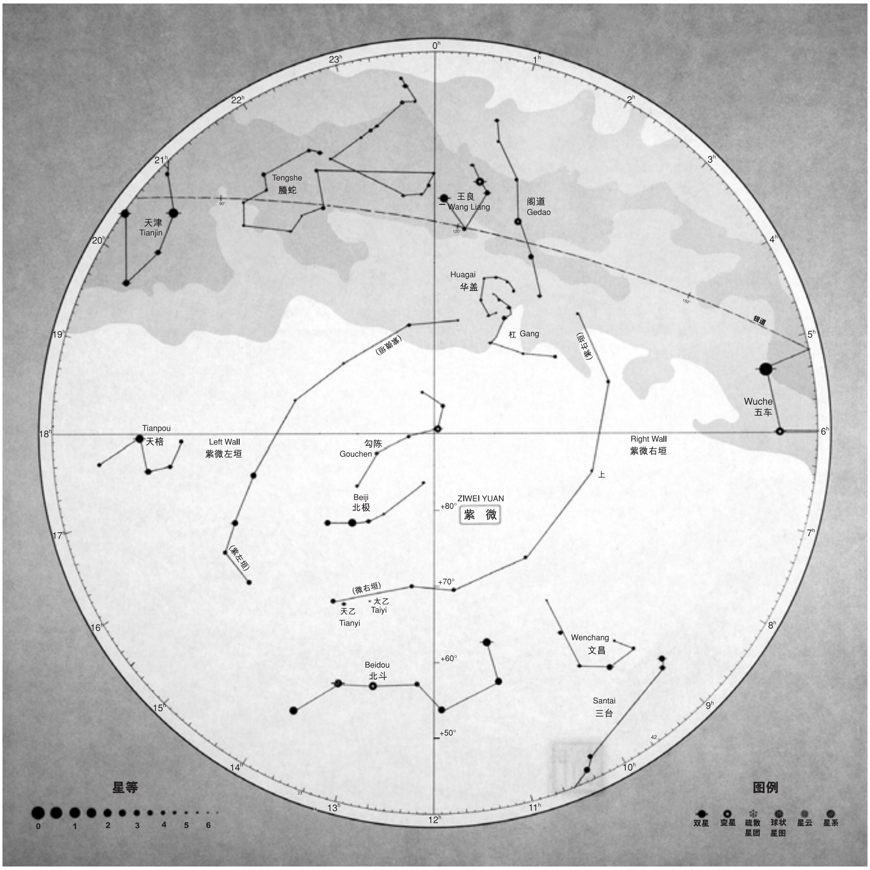


Figure I.1 Star Map: *Ziweiyuan* and the circumpolar constellations.

> seventh Qi 齊 [in modern Shandong and Hebei provinces]. . . . When the seven stars of Beidou asterism are bright, prosperity in the country is presaged.

It is mentioned in the *Xingjing* 星經 (Star Manual), a work compiled during the fourth century BC, that Beidou asterism originally consisted of nine stars, but two of which had since become invisible. We need not worry too much about the Chinese legend that all nine stars were visible in ancient time under the rule of sage emperors, but two of them disappeared from sight when virtue was wanting from their successors. If the line joining the sixth and the seventh star were extended outwards it would come close to several stars in the constellation Bootes. Zhaoyao 招搖 (γ Bootis) would be one of them and it would have been within the region of perpetual visibility to people in north China before 1500 BC.[4] Perhaps one should also consider

another possible answer. We remember that in the Greek tradition there was the invention of a counter-sun to make up the number 10 and in Aristotelian Europe the number 5 was used to justify that there could be only five planets. Now 9, being the highest single digit number in the decimal system, has always been highly respected in the Chinese tradition. For example, the phrase *jiu wu zhi zun* 九五之尊 (eminence of the numbers 9 and 5) was reserved only as a mark of respect when referring to the emperor. Perhaps numerology was also responsible in bringing about the nine stars in the Chinese Beidou asterism. During the Han period, an apocryphal treatise matched the nine stars of Beidou with the nine numbers in the *jiugong* 九宫 (Nine Palace) magic square, forming the basis of the *Taiyi* and the *Qimen Dunjia* cosmic boards described in Chapters 3 and 4.

Although the stars within the circle of perpetual visibility could be seen throughout the year and all through the night (weather permitting), astrologers could only observe the brightness or dimness of these stars mainly caused by changing atmospheric conditions. Outburst of a supernova, for example, was a rather uncommon event. Hence, these stars would not have given Chinese astrologers too much scope for interpretation. Serving their purposes more had to be stars and asterisms along or near the ecliptic and the equator where the moon, the planets and comets appeared to supply abundant data to enable them to make predictions. To meet the desire of the emperor to know more about what the stars were telling, a region among the constellations Virgo, Leo and Coma Berenices was reserved for him. This was the *Taiweiyuan* 太微垣 (Supreme Subtlety Enclosure). Within the enclosure were, for example, the Wudi 五帝 (Five Emperors) asterism representing the emperor, and the star Taizi 太子 (Crown Prince) for the crown prince, as its name implied. A comet or a nova near the Wudi asterism would bring ill omen to the emperor. Along the two chains of stars forming the walls of the enclosure were stars representing senior civil and military officers. For example, there were the two stars Zuozhifa 左執法 (Left Keeper of Law) (η Virginis) and Youzhifa右執法 (Right Keeper of Law) (Zavijava), the former symbolizing the Chief Justice in the Court of Revision and the latter the Imperial Censor. The *Jinshu* 晉書 has the following to say:[5] 'The two Keepers of the Law govern the investigation of the demeanor of the officials. When the officials are loyal and respectful towards the emperor the stars Keepers of the Law appear bright and lustrous.'

A group of 15 smaller stars northeast of Wudi asterism formed the Langwei 郎位 (Seats of the Court Gentlemen) asterism. A comet or a nova appearing in their midst would be regarded as a warning to the emperor of an impending rebellion from among the ranks of the civil officials. When the stars were not visible, the astrologer would read it as a presage of the demise of the empress or an imperial concubine, if not the death of a favourite courtier. The *Jinshu* says:[6] 'When the stars of Langwei appear large and bright or when a guest star [i.e. a comet or a nova] is found in their midst one may expect a rebellion by a senior officer against the throne.'

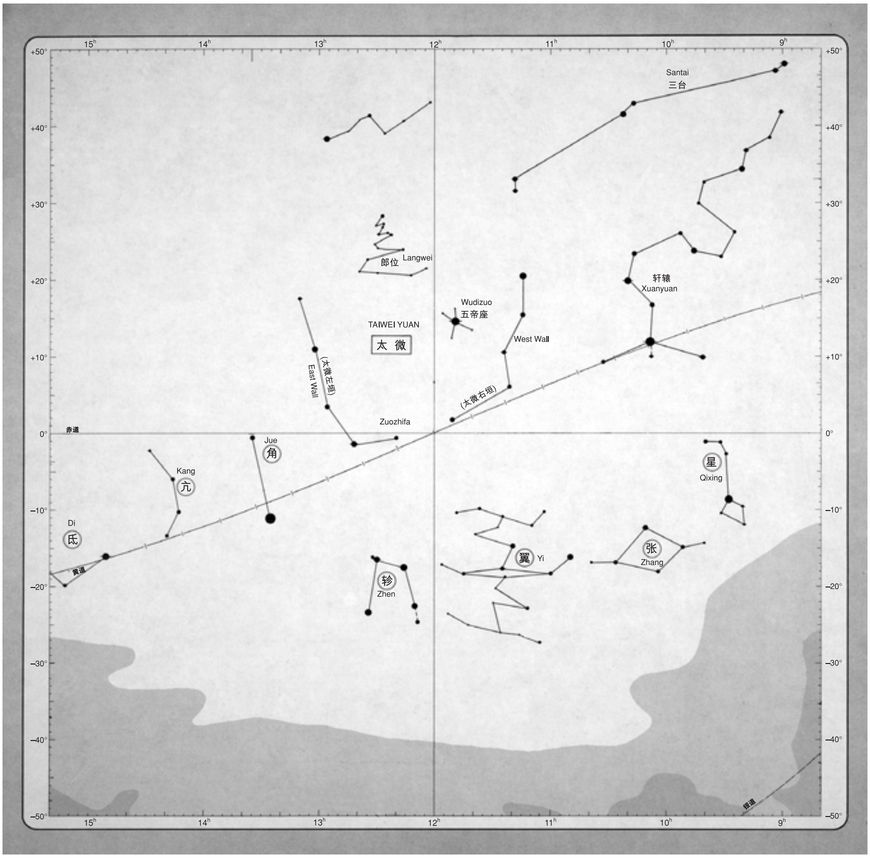


Figure I.2 Star Map: *Taiweiyuan* and surrounding constellations.

A third enclosure known as *Tianshiyuan* 天市垣 (Celestial Market Enclosure) among the constellations Hercules, Serpens Caput, Ophiuchus, Serpens Cauda and Aquila to the north of the Scorpion was also identified in Chinese astronomy. This enclosure catered for the economist. For example, within it the Shilou 市樓 (City Tower) asterism would foretell commodities prices and whether weights and measures were correctly used, the Liesi 列肆 (Rows of Shops) asterism governed the supply and demand of precious commodities such as jades, the Chesi 車肆 (Mobile Vendors on Carts) asterism represented places of assembly of merchants, and so forth. The stars forming the chains of walls of the Celestial Market Enclosure were named after political entities in the Spring-and-Autumn as well as the Warring States periods and were meant to be their counterparts in the heavens. Here we get some indication that Chinese astrology as mentioned above was already flourishing during the period between the eighth and the third century BC.

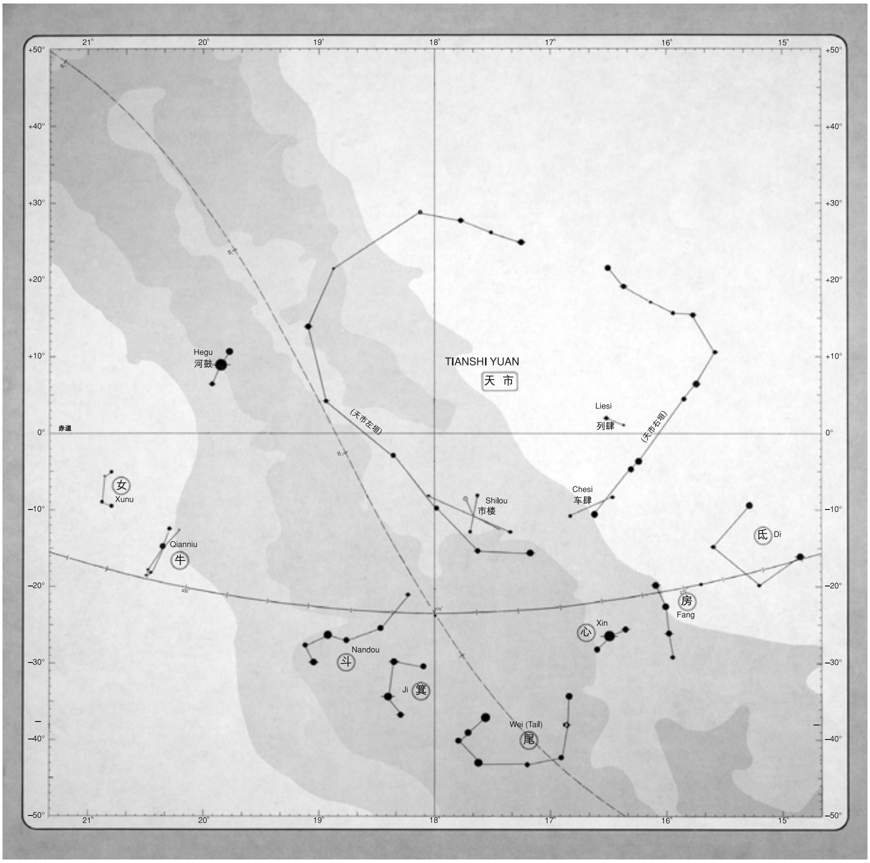


Figure I.3 Star Map: *Tianshiyuan* and surrounding constellations.

The region of perpetual visibility around the North Pole was known as the Central Palace (Zhonggong 中宮). The rest of the heavens was divided into four segments or the four palaces, namely (a) Eastern Palace (Donggong 東宮), also known as the Azure Dragon (Canglong 蒼龍) or Blue-Green Dragon (Qinglong 青龍); (b) Western Palace (Xigong 西宮), also known as the White Tiger (Baihu 白虎); Northern Palace (Beigong 北宮), also known as the Sombre Warrior (Xuanwu 玄武 or Yuanwu 元武); and Southern Palace (Nangong 南宮), also known as the Vermilion Bird (Zhuque 朱雀). Distributed evenly in number among the four palaces and more or less along the equator were the 28 lunar mansions (*xiu* 宿), which also played an important role in Chinese astrology.

The first lunar mansion Jue 角 (Horn) comprised the bright star Spica (α Virginis) and ζ Virginis. Spica governed military matters and the generals, while the second star governed law and justice. To the east of the Horn

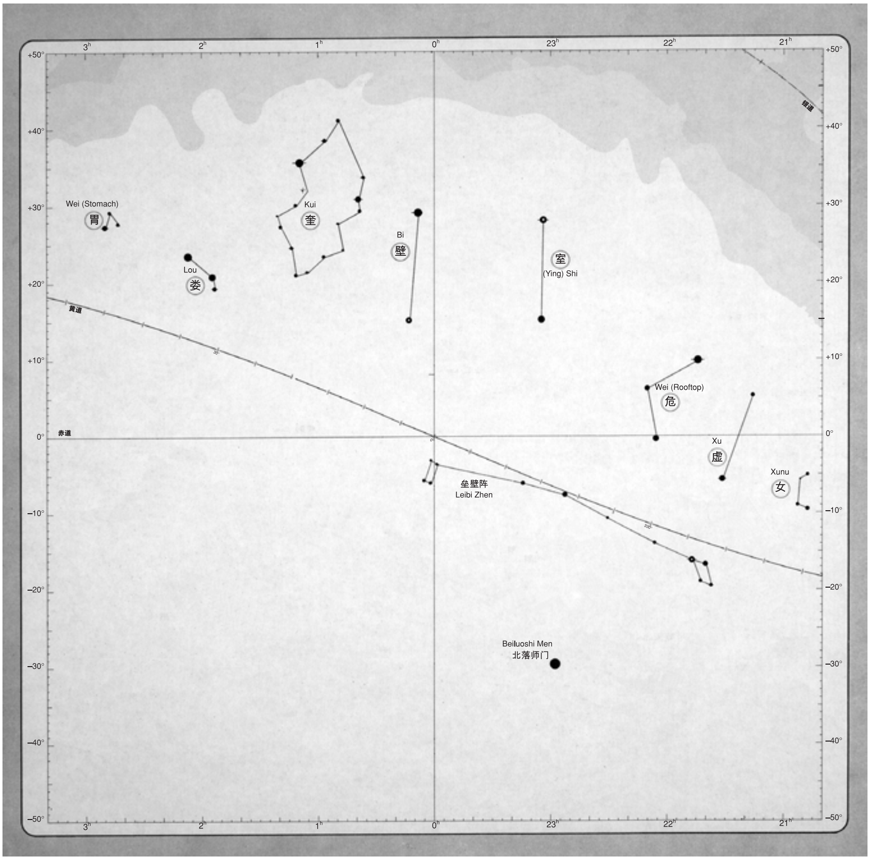


Figure I.4 Star Map: Region around the Northern Palace.

came the four stars of the second lunar mansion Kang 亢 (Neck). According to the Astronomical Chapters in the *Suishu* 隋書 (Official History of the Sui Dynasty), scintillation observed among these stars would forebode large number of the population falling ill. Next came the four stars of the third lunar mansion Di 氐 (Roots). When the last two stars of Di (i.e. γ and β Librae) appeared bright and large they would bring peace to the country but, when they scintillated, many could be expected to be enlisted into forced labour. The fourth lunar mansion Fang 房 (Chamber), the fifth lunar mansion Xin 心 (Heart) and the sixth lunar mansion Wei 尾 (Tail) together form the Scorpion. The four stars of Fang represented the Prime Minister and his Deputy, and the Commander-in-Chief of the army and his second in command. Xin comprised three stars with the bright star Antares at the centre. Antares was reserved for the emperor and the stars next to it the Crown Prince and the princes. The nine stars of the sixth lunar

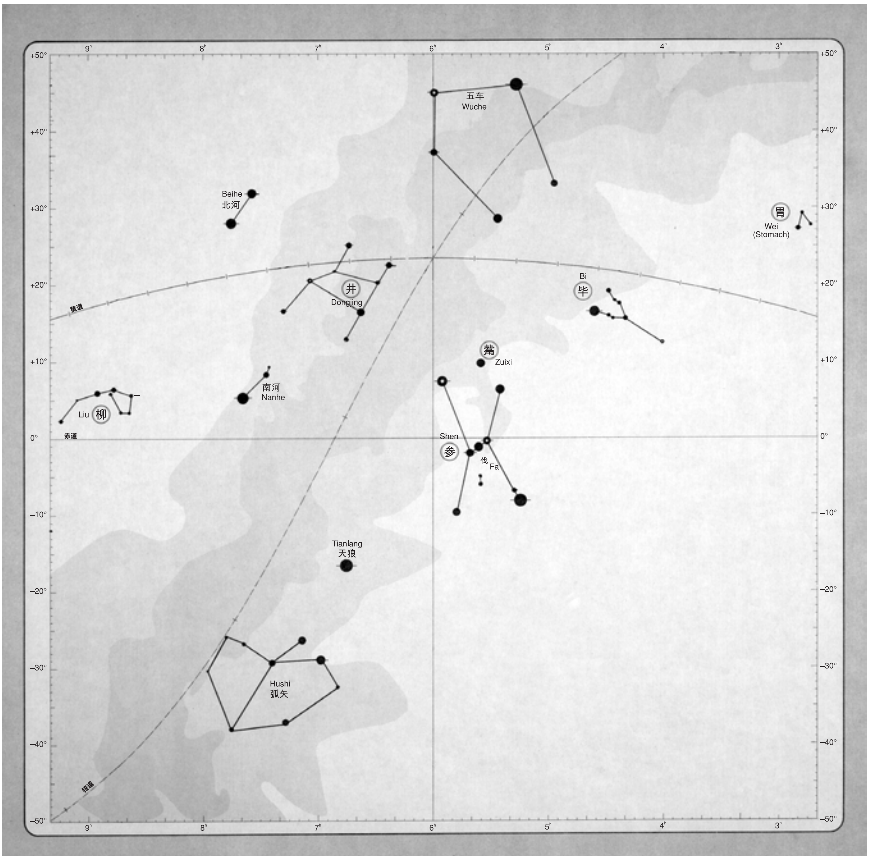


Figure I.5 Star Map: Region around the Western Palace.

mansion Wei represented the empress and the imperial concubines. The Astronomical Chapters of the *Suishu* say that when these stars looked small and dim the empress could be expected to suffer from some serious illness. The last lunar mansion in the Eastern Palace was the seventh lunar mansion Ji 箕 (Basket), comprising the four stars γ, δ, ε and η Sagittarius. These stars were carefully watched for signs of movements of foreign troops along the border.

The Northern Palace began with the eighth lunar mansion Nandu 南斗 (Southern Ladle) that looks like a miniature replica of the Plough. Comprising six stars in Sagittarius, this lunar mansion told the personal fortune of the emperor as well as other important impending events. The Astronomical Chapters of the *Jinshu* say:[7] 'When the stars of (Nan)dou appear very bright they indicate that the reign will be peaceful and that conferment of titles and dispensation of emoluments will proceed without interruption.'

At the same time those of the *Suishu* say:[8] 'Pointed rays and scintillation observed among these stars would sadden the emperor and presage war, migration of the population and a minister being removed from his office.'

Next came the ninth lunar mansion Qianniu 牽牛 (Cowherd), comprising six rather faint stars in Capricornus. The Cowherd governed gates, bridges, cattle and horses. Then followed the tenth lunar mansion Xunu 須女 (Maid-in-Waiting), consisting of four faint stars in Aquarius and governing marriages and the textile industry. The next three lunar mansions extended from Aquarius to Pegasus and should be of special interest to the architect and the civil engineer. The eleventh lunar mansion Xu 虛 (Wilderness) governed temples and places of worship, the twelfth lunar mansion Wei 危 (Rooftop) governed markets and house-building, and the thirteenth lunar mansion Yingshi 營室 (Encampment) concerned the arsenal as well as the department of public works. The fourteenth lunar mansion Dongbi 東壁 (Eastern Wall) comprised the two stars γ Pegasus and α Andromeda and governed libraries and literary works.

The Western Palace began with the fifteenth lunar mansion Kui 奎 (Stride), comprising 16 stars forming a loop in Andromeda and Pisces. Besides governing the canals and waterways, this lunar mansion also indicated the strength of the armed forces in the service of the emperor. The sixteenth lunar mansion Lou 婁 (Lasso) found in Aries governed the rearing of cattle, among other functions. The seventeenth lunar mansion Wei 胃 (Stomach), also found in Aries, governed warehouses and granaries. The Pleiades constituted the eighteenth lunar mansion Mao 昴 (Stopping Place). The Astronomical Chapters of the *Jinshu* say the following about this lunar mansion:[9]

> When the stars of Mao are bright there will be peace and calm in prisons throughout the country. When all the other six stars match the largest star in brightness heavy floods are presaged. If all seven stars look yellow there will be large-scale mobilization of soldiers. The disappearance of one of the stars presages mourning for soldiers killed in action. Glittering or scintillation of the stars foretells the imprisonment of high-ranking officials and funeral rituals. If they look large and glittering violently as if they are leaping up and down they presage that the northern and Western tribal people are on the warpath.

The nineteenth lunar mansion Bi 畢 (Net), comprising eight stars in Taurus, had somewhat similar functions as Mao. It was observed to keep watch over the tribal people, and when the moon entered this lunar mansion abundant rainfall would be expected. The twentieth lunar mansion Zuixi 觜觿 (Turtle Beak) consisted of three stars in Orion and governed the arsenal and military supplies. Almost identical with the Hunter in Orion was the twenty-first lunar mansion Shen 參 (Investigator), one of the most

conspicuous asterisms in the night sky. Among other things, this lunar mansion revealed the loyalty and the ability of the military generals.

The Southern Palace began with the twenty-second lunar mansion Dongjing 東井 (Eastern Well), comprising eight stars in Gemini. This lunar mansion indicated the performance of the emperor, whether he was just and impartial. Next came the four stars of the twenty-third lunar mansion Yugui 輿鬼 (Ghost Vehicle). According to the *Suishu*, when its stars scintillated brightly heavy taxes and forced labour would be expected and, when the stars seemed to move, unhappiness among the population due to oppressive legislation would be expected. The eight stars of the twenty-fourth lunar mansion Liu 柳 (Willow) in Hydra made predictions concerning food and the kitchen. Brightness of the stars would indicate ample supplies for the kitchen for the preparation of dishes capable of pleasing the Epicurean. The seven stars of the twenty-fifth lunar mansion Qixing 七星 (Seven Stars) in Hydra governed clothing and embroideries, while the six stars in the twenty-sixth lunar mansion Zhang 張 (Net), also in Hydra, governed treasure and gems as well as food and beverages. The twenty-seventh lunar mansion Yi 翼 (Wings) consisted of 22 stars in the constellation Crater. This lunar mansion governed music and theatrical plays and forewarned about foreign relations, particularly with neighbouring countries in the north and in the west. Finally came the twenty-eighth lunar mansion Zhen 軫 (Chariot Cross-Board), made up of four stars in the constellation Corvus. These stars gave warning as to whether horses and chariots had to be put in readiness for war.

Stars and asterisms beyond the three enclosures and the 28 lunar mansions also played a part in Chinese astrology. It is only possible to select the more conspicuous stars for mentioning here. North of the equator we find Altair and γ Aquilae forming the Hegu 河鼓 (River Drums) asterism, which governed the battle drums and iron halberds. On the opposite side of the Milky Way is the bright star Vega. Together with the two stars ε and ζ Lyrae, it formed the asterism Zhinu 織女 (Weaving Damsels) that governed fruits, melons, silk, cloth and treasure. Another bright star, γ Bootis, was the star Zhaoyao 招搖 (Glittering Indicator) that governed soldiers and the northern and western tribal people. Stars and asterisms in the south of the 28 lunar mansions also played a part in Chinese astrology. Canopus was perhaps the most conspicuous among stars in the southern sky to Chinese observers. Known as Laoren 老人 (Elder) or Nanji 南極 (Extreme South), in Chinese astrology it was regarded as governing longevity and prosperity, and its appearance to forebode peace during the reign of the emperor. Another bright star is α Centauri, which together with ε Centauri formed the Nanmen 南門 (Southern Gate) asterism that Chinese astrologers kept watch on for signs about garrison troops.

The sun, the moon, the Five Planets, comets, meteors and novae all had astrological significance. Haloes and parhelia, aurorae borealis, clouds and vapour were all taken into consideration. The sun represented the emperor

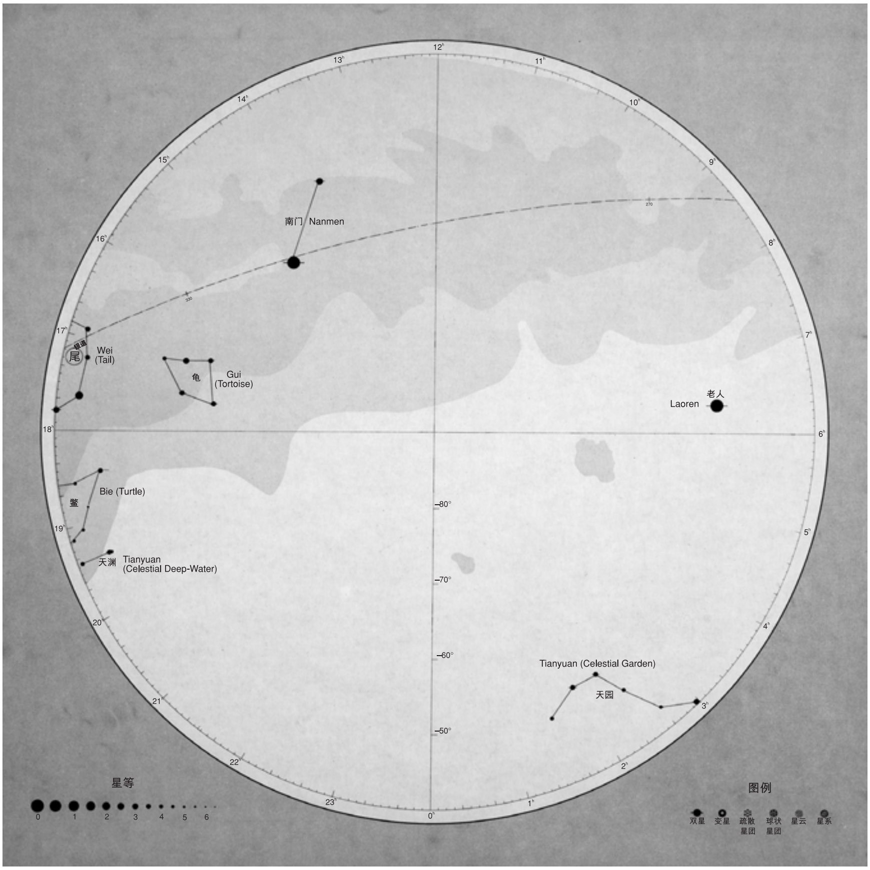


Figure I.6 Star Map: The southern sky in Chinese astronomy.

and solar eclipses were looked upon as reflections on his demeanour. Likewise, the moon would refer to the empress. Planets made predictions according to their movements and appearances, and often their positions were taken into account. Comets and novae normally brought bad omens to the earth counterparts of their positions in the sky. A comet was regarded as a sign of war or change, signifying changing to a new order like a broom sweeping away the old. In a war, the head would point towards the winner's side and the tail the vanquished. Meteors were read according to the appearance and direction of their paths and the duration of the occurrence. Mock suns and parhelic arcs referred to matters concerning the emperor or his empire. Aurorae borealis, clouds and vapours sent messages to the military commander on the state of the enemy, the outcome of battle and advice on operation. Details of the above are given elsewhere.[10]

Chinese astrologers divided the sky visible to them into regions correlating with geographical cities, prefectures and states, besides identifying certain stars for the same purposes as noted above. Following the tradition of the Warring States period, Ban Gu 班固 (AD 32–92) in his *Santongli* 三統曆 (Three Sequences Calendar) system related the 12 Jupiter-Stations (*ci* 次) to 12 geographical regions. There were other versions of division of geographical regions, relating them to the Jupiter-Stations. Later, Chen Zhuo 陳卓 (fl. early 4th century) expressed the relation between geographical regions and the heavens in terms of number of degrees along the equator from the determinant stars of the nearest lunar mansion. For example, modern Beijing would correspond to a region within 7 degrees from the determinant star of the sixth lunar mansion Wei (Tail), a star identified with μScorpius. The astrologer would interpret a comet or a nova seen in its vicinity as an ill omen for the area.

Another characteristic of Chinese astrology was the philosophical significance of the 'retribution of the natural order against those who oppose the *Dao* 道'. This cannot be more strongly emphasized than in the following passage from the *Jinshu*:[11]

> When the action of the emperor (on earth) corresponds with the measured motions of the heavens, when his ceasing to act coincides with the meaning of the earth, and when (this alternation) naturally and easily follows the *Dao* – then the stars of the Wudi asterism in the Taiwei (Enclosure) will shine with all their brilliance.

Thus solar eclipses and sunspots were regarded in Chinese astrology as warnings from above to the emperor against his demeanour. Chinese records of eclipses, particularly those of the Han period, have given rise to many interesting discussions. There were suggestions that some eclipses were later calculated and interpolated into the records and there were suggestions that they were included or excluded for political reasons. All these sound quite possible but, having gone through Chinese astronomical records in various sources, my personal observation is that many errors that occurred can be attributed to the scribes or printers while many omissions came about when the compilers of the official dynastic histories made selections of entries from the veritable histories and records from the Astronomical Bureau. Nevertheless, astrology had been exploited in traditional China for political ends. Recent studies revealed a plot resulting in the death of a Han Prime Minister by fabricating a report of Mars in the vicinity of Antares.[12] Since bad omens could be brought about by misdeeds on the part of the emperor, it followed quite naturally that Chinese astrology believed that these could be averted by appropriate actions of the emperor, such as amending his ways, showing signs of repentance and making offerings to the heavens. The action of the ruler could change the course of the star, so it was believed. A beautiful example comes from the *Shiji* 史記 (Historical Memoirs), which says:[13]

> In the 36th year of the reign of (Song) Jinggong 景公 (400 BC) Mars was observed within the (5th lunar mansion) Xin, which (astrologically) corresponded to the State of Song. Jinggong was in great anxiety because the event presaged a catastrophe falling upon the head of state, i.e. himself. He sought advice from (the astrologer) Ziwei 子韋, who suggested that the impending calamity could be diverted to fall on the Prime Minister or on the people of Song State if not on the year itself. Jinggong declined the offer saying that his Prime Minister was part of himself, that he would not allow his people to be harmed as it was his duty to serve them, and that a bad year would also ruin his people. Hearing this, Ziwei assured Jinggong that, in view of his munificence and concern for his subjects, the planet would soon move away from that ominous position. When another observation (of Mars) was made the planet was found to have already shifted by three *du*.

We also have an example of a civil servant requesting to be transferred to a less senior post in his effort to avert an impending disaster read from the signs of the stars. The *Jinshu* says:[14]

> On a *yihai* day in the 6th month of the 6th year of the Xiankang reign-period (18 July 340) the moon trespassed against the central star (Dabih) of (the 9th lunar mansion) Qianniu – an ill omen for the Attorney-General according to standard prognostication. At that time the Secretary of State He Chong 何充 also held the post of Attorney-General. Hoping to divert the impending calamity he asked to be appointed Keeper of the Imperial Seal. . . .

The above tradition had travelled to Annam. For example, when a comet was sighted in January 1299, King Trân Anh-tông kept away from his main palace hall and rationed his meals.[15]

With the demise of the Chinese dynasties, modern observatories at the foundation of the Republic replaced the traditional Astronomical Bureaux. Today, Chinese astrology is understood by many only as the *Ziwei doushu* method of astrology, which bears traces of Hellenistic, Hindu and Persian influence, as mentioned in Chapter 3. The passage of time has already rendered obsolete the form of traditional Chinese astrology described in this Appendix. Nevertheless, traditional Chinese astrology has left behind its legacy to modern astronomy. The Chinese belief in the mandate of heaven is closely linked with astrology. It was imperative for the emperor to maintain the Astronomical Bureau, which employed both astronomers and astrologers. Astrology was often regarded as classified knowledge and the making of astronomical observations was a state monopoly. Emperors were often wary lest astrologers might fall into the wrong hands and make interpretations of celestial events contrary to their interest. For example,

spreading rumours using signs of the stars to say that a rebellion would succeed would be regarded as dangerous, as such powerful propaganda could adversely affect the morale and the loyalty of both their army and their subjects. Secrecy and semi-secrecy are seldom good promoters of knowledge. However, in spite of its many drawbacks, the belief in the mandate of heaven and the maintenance of secrecy in Chinese astrology had enabled the Chinese to contribute to modern astronomy the longest continuous set of astronomical records in the world over a period of more than 2,000 years. Until the Muslim astronomers, these records were never matched elsewhere in detail and accuracy. Astrology was the motive force that activated Chaldean astronomy in antiquity. So was it in traditional China, albeit with a much more far-reaching effect.

APPENDIX II
THE *ZIPING* METHOD OF FATE-CALCULATION

Introduction[1]

Judicial astrology deals with the relationship between the heavenly bodies and the life of an individual. However, Chinese astrology, as we can see in Appendix I, instead of concerning itself with the common people, dealt with the relationship between the stars and the life of those who happened to occupy important positions in the official hierarchy centred on the Chinese emperor and extending from him to members of the royal family and the senior ministers. Fate-calculation applicable to all has often been misinterpreted as 'astrology'. The topic of fate-calculation briefly touched upon in the sub-section on pseudo-science in Needham (1956) refers to the *Ziping* 子平 method.[2] A fuller account of the method is given in Ho Peng Yoke (1988).[3] The *Ziping* method of fate-calculation is similar to judicial astrology in its purpose of interpreting what is destined in the life of an individual, but the similarity also ends here. Unlike judicial astrology, a practitioner of the *Ziping* method of fate-calculation does not go through the exercise of working out the positions of the planets to cast a horoscope. Rather, he just performs a rather laborious calculation of the mutual relationships of the parameters of the time of birth of the individual concerned, both among these parameters themselves and between them and each and every future year and sometimes perhaps every future month to come. There exists also another different type of fate-calculation with elements of Hellenistic, Iranian and Hindu astrology in the form of the *Ziwei doushu*, as mentioned in Chapter 3.

Fortune-telling is a subject that has received only mixed receptions in the past. In our modern age, some would brush this subject aside as either unscientific or superstitious, but there do remain others who are still fascinated by it. Nevertheless, if we were to extend to some of these traditional Chinese methods of fortune-telling the same amount of tolerance that we accord to many of our modern efforts of predicting future events, such as weather forecasting, stock market futures, Gallup polls, etc. – none of which ever guarantees precise accuracy but nevertheless are accepted as legitimate exercises – it can be demonstrated that the *Ziping* method of fate-calculation

is one of those methods worthy of our attention. The *Ziping* method does not use scientific instruments to observe temperature, air pressure, humidity and air movement as the weather forecaster does, nor computers to analyse the trend of share prices like some stock-market consultants, nor public opinion polls like the political analyst – although it seems quite feasible to write a computer program for it – but it is consistent with the same principles that explain traditional Chinese science. It does not involve the supernatural and hence the word 'superstitious' is not applicable in this particular sense – unless, of course, if the word is given the broader meaning of the Chinese term *mixin* 迷信 (infatuated in one's belief). Then, anything believed in gross excess to the neglect of essentials in life is a deserving candidate of this adjective, be it over-excess of indulgence in some of the desirable things in life, such as wealth and power.[4]

Brief history

Being an unorthodox subject in traditional Chinese scholarship, the art of fate-calculation was generally frowned upon by Chinese scholars. The exception to this rule was the *Yijing* (Book of Changes). Practitioners of the art of fate-calculation often wrote in an obscure style to discourage the uninitiated. Hence, unlike other branches of Chinese studies, it is difficult to gain access to reliable documentation concerning this arcane art. We know that by the Han period (206 BC–AD 220) some Confucianists were already talking about the three types of human fate (*sanming* 三命). The first type was endowed during birth, known variously as 'normal fate' (*zhengming* 正命), 'great fate' (*daming* 大命), 'endowed fate' (*shouming* 受命) and 'longevity fate' (*shouming* 壽命); the second was determined by one's behaviour in life, called the 'resultant fate' (*suiming* 隨命); and the third was determined by something that modern insurance companies call 'an act of God', namely the 'fate of meeting (with calamity)' (*zaoming* 遭命). The first type led to the gradual development of the art of fate-calculation. At first only the year of birth was considered to be of consequence. As time went by, the month and then the day of birth were also taken into account. The earliest book on fate-calculation that is still extant is the *Li Xuzhong mingshu* 李虛中命書 (Li Xuzhong's Book of Fate-calculation), included in the *Siki quanshu* Collection. Attributed to the celebrated early ninth-century Tang fate-calculation expert Li Xuzhong 李虛中, it mentions the use of the hour, or rather the double-hour, of birth, besides the year, month and day. Because there were some who doubted that Li Xuzhong ever made use of the hour there were also some who expressed the view that, although the book contained material added by later writers, the main part of the text that we now have was due to Li Xuzhong himself, who did make use of the hour in his calculation.

It is said that the method used by Li Xuzhong was inherited more than 100 years later by Xu Juyi 徐居易, better known under his style (*zi* 字)

Xu Ziping 徐子平. Of his life we know very little. He probably lived during the latter half of the tenth century, from one account saying that he was a hermit in Huashan 華山 mountain during the time of the Five Dynasties (907–960) and from another saying that he was a fate-calculation expert of Northern Song (960–1127), and so great was his fame that his name was associated with the method he used. Some said that it was he who added the hour element to the method used by Li Xuzhong.

Xu Ziping is supposed to have written one of the four commentaries to the *Luoluzi sanming xiaoxifu* 珞琭子三命消息賦 (Luoluzi's Verses on the Fluctuations of the Three Fates) that we now have in the *Siku quanshu* Collection. This book seemed to be very popular among fate-calculation experts in the early days of the Song dynasty. However, as for the present version of its commentary by Xu Ziping, the actual authorship is also a contentious point. Xu Ziping's name is also prefixed to a number of book titles in later time, and it is believed that in many books bearing his name his method was referred to rather than his authorship.

The most comprehensive as well as authoritative book on the *Ziping* method of fate-calculation is the *Sanming tonghui* 三命通會 (Confluence of the Three Fates) in twelve *juan*s, written by Wan Minying 萬民英 (1523–?) (also known as Wan Yuwu 萬育吾) of the Ming period (1368–1644). This compendium is incorporated in the *Siku quanshu* Collection. Since then the method has been constantly revised to keep abreast with changing social structures, as witnessed by the many books written to promote the subject during the last few decades in various parts of East Asia.

Basic principles

The *Ziping* method of fate-calculation works on the same principles described in Chapter 2. Writers on the theory of fate-calculation invariably begin with *Wood*, the *xing* representing the spring season, and discuss the state of *Wood* in each of the 12 phases or in this case throughout the 12 months of the year. The annual cycle of a tree became the paradigm, which enables the theorist to explain the 12 phases of not only *Wood* but also *Metal, Earth, Water* and *Fire*. At what month of the year (i.e. which 'terrestrial branch') does a tree (i.e. *Wood*) need more water (i.e. the *Water xing*), when does it require sunlight and warmth (i.e. *Fire*), when should it be pruned (i.e. by *Metal*), and what should the condition of the soil (i.e. *Earth*) be at different times of the year? All these come into the consideration of the theorist in formulating the method of fate-calculation. Hence, the method seems to have been derived from a long and careful observation of nature.

Books on fate-calculation are mostly written in a garbled style. For example, let us quote a small passage from one of the basic texts used by the practitioners, the *Ditiansui* 滴天髓 (Essence dripping from the Heavens), a book said to be written in the fifteenth century, that reads: 'Holding *ding*

within and embracing *bing*; sitting upon the phoenix and riding on the monkey.' Here the phoenix refers to the chicken and therefore the branch *you*, while the monkey refers to the branch *shen*. The passage seems to say that if one is born on a day with either the *you* or *shen* branch, it augurs well if the month of birth has the *bing* or *ding* stem.

Two or more stems appearing together often interact among themselves. The same applies to the branches. Modern books on fate-calculation often include charts and diagrams indicating some of the relations that the authors consider as being significant. For example, the stem *jia* appearing together with the branch *si* is one of the ten signs showing that the individual concerned is destined to become a scholar, while *jia* with the branch *wei* is one of the combinations showing a person whom Lady Luck tends to favour with her smile.

The eight characters (*bazi* 八字)

In the art of fate-calculation the year, month, day and time of birth of the individual concerned, known as the 'Four Pillars' (*sizhu* 四柱), are each represented by a stem-and-branch combination, comprising eight ordinals, or 'eight characters' (*bazi*). Hence the more general terms 'calculating fate from the eight characters' of the Chinese, 'the eight characters and the four pillars' of the Korean and 'four pillars fate-calculation' of the Japanese.[5] They all refer to the *Ziping* method of fate-calculation, although all three of them have undergone modifications to adapt to the changing societies.

In the olden days, say during the third century when Guan Lu 管輅 was hailed as the greatest diviner of his day, the year of birth was regarded as the primary factor that would influence one's fate in life. Later, perhaps at about the Tang period in the days of Li Xuzhong, the month of birth assumed greater importance than the year. Since the Ming period, at least not later than Wan Minying's *Sanming tonghui*, the day of birth has come to be regarded as the factor having the most direct bearing on the individual. The geographical location of the place of birth is also regarded by the *Sanming tonghui* as an important factor.[6] The stem of the day of birth, known as 'original (ordinal of the) day' (*riyuan* 日元), is the first of the eight ordinals to be looked at in fate-calculation.

The relations between the *riyuan*, the day stem and the other seven ordinals are supposed to reveal the details of the family of the individual as, for example, the number of offspring, whether one's parents and even grandparents are rich or poor, whether one's brothers will be helpful and so on and, in the case of the Japanese system, one is supposed to be able to read from the eight ordinals even the individual's standing in the eyes of his or her own employer.

Let us look at Figure 2.1 again. Putting in the 10 stems and the 12 branches according to their being *Yin* or *Yang* in their respective *xing*s results in Figure II.1.

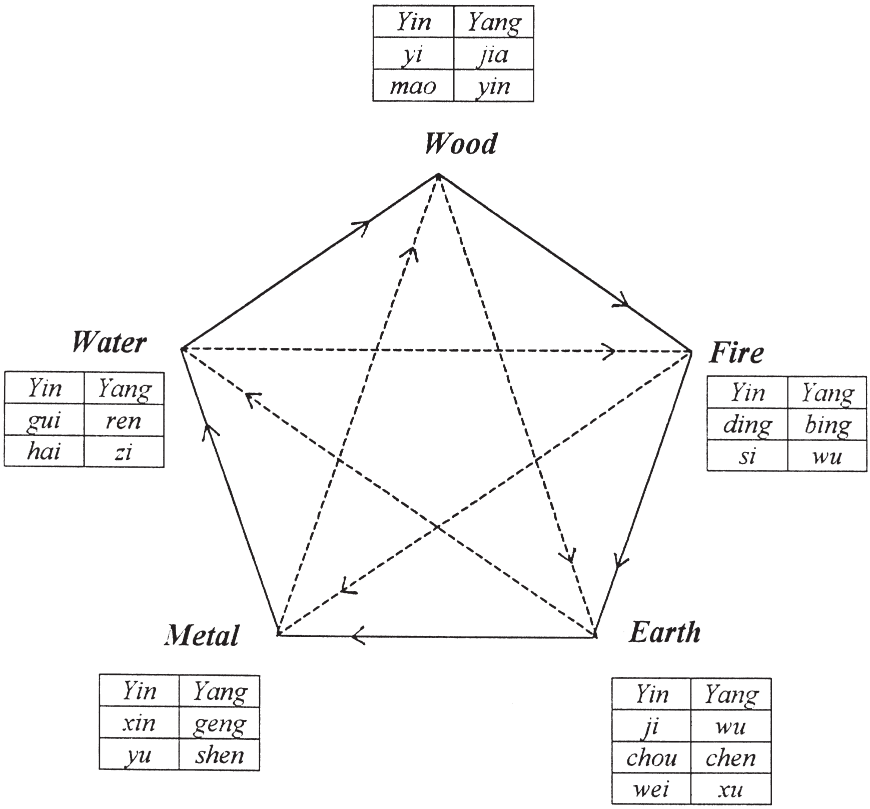


Figure II.1 Mutual Production and Conquest of stems and branches.

The so-called 'ten spirits' (*shishen* 十神) or 'six spirits' (*liushen* 六神)

If we substitute the stem of the day of birth with the term *riyuan*, all the other ordinals will take on different names according to their positions in the orders of Mutual Production and Mutual Conquest, as shown in Figure II.1, and what we get as a result is something reminding us of a sociogram, as shown in Figure II.2.

As we can see, all the various names other than the *riyuan* 日元, which represents the subject whose fate is being read, refer to different states of *qi* in relation to the subject; some are beneficial but others are not. An ordinal belonging to the same *xing* as the *riyuan* and being the same *Yin* or *Yang* is the 'shoulder-of-equal-level' (*bijian* 比肩), representing one's brothers or equals. It is also called 'official appointment' (*lu* 祿), and is supposed to mean what its name implies. With the same *xing*, but opposite in *Yin* and *Yang* to the *riyuan*, is the 'depriver' (*jie* 劫), which refers to the rank of

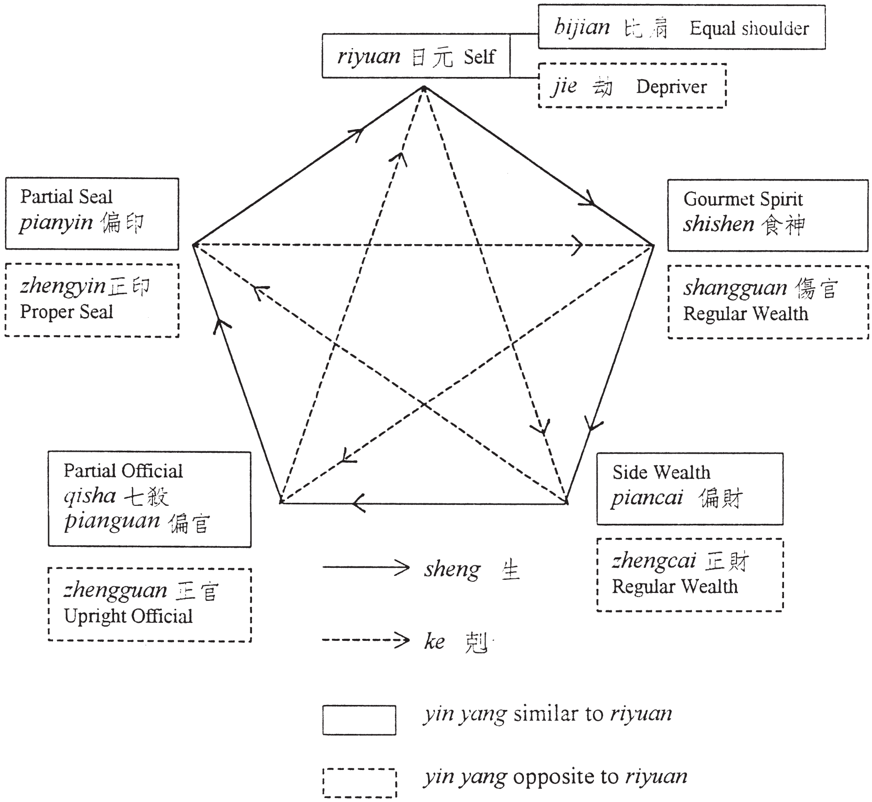


Figure II.2 The *riyuan* and fate-calculation sociogram.

one's equals. It is also known as 'depriver of wealth' (*jiecai* 劫財) and 'spoiler of wealth' (*baicai* 敗財). Another name given to it is the 'dagger' (*ren* 刃 or *Yangren* 羊刃), a sign of danger.

Going round the pentagram in a clockwise direction, next to the *riyuan* are the 'gourmet spirit' (*shishen* 食神) and the 'official jinx' (*shangguan* 傷官), the first having the same *Yin* or *Yang* as the *riyuan*, and the second the opposite. Note that the word 'spirit' used here refers to a particular state of *qi* and has nothing to do with the supernatural. It is only used here for lack of a better translation for the word '*shen*'. In fact, all the different states of *qi* we have here, including the 'shoulder-of-equal-level', the 'depriver of wealth' and the 'official jinx' that we have just met, are known by the general term 'spirit' (*shen*), forming the '10 spirits'. Since only six of them have functions significantly different from each other, sometimes they are referred to as the 'six spirits'. Sometimes they are also classified as 'good spirits' (*shen*) and 'evil spirits' (*gui* 鬼 or *sha* 煞). The 'gourmet spirit', as its

name implies, is normally a 'good spirit' while the 'official jinx' normally causes problems to the one in office and is regarded as an 'evil spirit'. However, none of them is absolutely good or absolutely bad. One Japanese book on the subject says that the 'official jinx' can be a sign of a talented person developing later on in life as a great artist or a musician.

Next come the two items of 'side wealth' (*piancai* 偏財) and 'regular wealth' (*zhengcai* 正財), both under the control of the *riyuan*. They support the two officials on their left, one the 'upright official' (*zhengguan* 正官) and the other the 'partial official' (*pianguan* 偏官). Note that both these 'officials' control the *riyuan*, but that they are also controllable by the 'official jinx' and the 'gourmet spirit'. The two 'officials' support the symbol of authority, the 'proper seal' (*zhengyin* 正印) and the 'partial seal' (*pianyin* 偏印), also known as the 'unscrupulous spirit' (*xiaoshen* 梟神). The authorities of the two 'seals' support the *riyuan*, but control the 'gourmet spirit' and the 'official jinx'. It is interesting to note that these authorities are under the control of the two 'wealths'.

The above relations reflect the hard facts of life in traditional Chinese society at the time they were formulated and they must have resulted from long and careful observations. Different interpretations are attached to these relations. Some use them to tell the past and future family background. Parents are referred to in the ordinals of the month and grandparents in those of the year, while the 'terrestrial branch' below the *riyuan* is the place for the wife, and that of the double-hour denotes children. Within each of the 'terrestrial branches' are hidden two or three 'celestial stems' – known as 'human elements' (*renyuan* 人元) – and one has to work out their individual relationships with respect to the *riyuan*. It is also necessary to refer to the phases as shown in Figure II.2 to tell more about one's spouse and one's offspring. All these are supplemented by what is revealed in the sociogram. As noted earlier, both the 'shoulder-of-equal-level' and the 'depriver of wealth' may denote one's brothers and sisters. The father is denoted, among other things, by the 'side wealth', to which the *riyuan* is probably regarded as a liability and hence it comes under the control of the latter. The 'regular wealth', on the other hand, represents the wife, among other things. The 'officials' would represent the children. The 'upright official' can be the son. Note that according to this system, a father is under the control of his own son: presumably he is responsible for bringing the latter up from childhood and later becomes dependent on him when he gets old himself. The mother finds her place in the 'proper seal'. To take an example, a preponderance of 'shoulder-of-equal-level' and especially 'depriver of wealth' would have a depleting effect on the 'side wealth' and is interpreted as a bad sign for the father.

As pointed out earlier, there is always more than one interpretation and new interpretations are made from time to time to adapt the system to the changing society. If we wish we can take the 'shoulder-of-equal-level' and 'depriver of wealth' to represent our colleagues at work. A Japanese

adaptation has made the 'upright official' into the boss or chief executive officer. Our colleagues can share the workload coming from the direction of one's boss but, at the same time, they also compete with us to gain control of the 'side wealth', which in this case may represent promotion, favours from the boss, and so on. How this affects us would depend on the relative strength of our *riyuan* and the 'shoulder-of-equal-level' and 'depriver of wealth' and the conditions of the 'upright official' and the 'side wealth'.

From the month and time of birth the fate-calculation expert can work out the 'fate palace' (*minggong* 命宫) of the subject. Consisting only of a 'terrestrial branch', its interaction with the 'eight characters' has to be taken into account.

The 'Great Destiny' (*dayun* 大運) cycle

Some professionals stop short at the 'Ten Spirits' in their consultations. For more elaborate calculations, the destiny cycles of the individual have to be carefully examined. There is the 10-year cycle of the 'Great Destiny', which is considered to be of great importance. The time when the cycle of 'Great Destiny' begins has to be calculated. Each of these cycles is represented by the combination of a 'celestial stem' with a 'terrestrial branch' in the sexagenary cycle, with the 'celestial stem' concerned presiding over the first five years of the cycle and the 'terrestrial branch' the next five. Their reactions with the 'fate palace' and the 'eight characters', particularly the *riyuan*, would determine the general fortune of an individual over a five-year period. There is also a minor one-year cycle of destiny called the 'small cycle' (*xiaoyun* 小運). However, as its name implies, it is regarded as of minor importance and is not often taken into account in fate-calculation.

The year itself plays a great part on one's fortune. The practitioner has to examine how the ordinals of the year affect the 'eight characters', the 'fate palace' and the 'Great Destiny' cycle. To go a step further, he can even look at the ordinals of the individual months and days for a more detailed interpretation. The practitioner has at his disposal a number of tables that he can consult. These tables, as shown in Figure II.3 to Figure II.5, give details of the combinations of ordinals. Nevertheless, calculations giving details concerning every year of an individual's life are seldom seen nowadays. In November 1986, while talking about geomancy and fortune-telling with an acquaintance who was knowledgeable in these arts, I was informed that in Hong Kong a long consultation of this nature would cost a small fortune and that there were only very few experts around who could perform such detailed calculations.

Practitioners of fate-calculations were very much aware of the fact that many with exactly the same eight characters did not share the same fate. An example often cited is the case of two persons with the same eight characters ending up with one amassing immense wealth and the other becoming a pauper. To deal with such a problem some practitioners would

吉凶星 / 地干	天乙貴人	文昌貴人	羊刃	飛刃	暗祿	金輿祿	紅艷
甲	未丑	己	卯	酉	亥	辰	午
乙	子申	午	辰	戌	戌	己	申
丙	亥酉	申	午	子	申	未	寅
丁	亥酉	酉	未	丑	未	申	未
戊	未丑	申	午	子	申	未	辰
己	申子	酉	未	丑	未	申	辰
庚	未丑	亥	酉	卯	己	戌	戌
辛	午寅	子	戌	辰	辰	亥	酉
壬	己卯	寅	子	午	寅	丑	子
癸	己卯	卯	丑	未	丑	寅	申

Figure II.3 Auspicious and ominous combinations of stems with branches.

吉凶星 / 月支	天德貴人	月德貴人	華 蓋	注 受
寅	丁	丙	戌	子
卯	申	甲	未	亥
辰	壬	壬	辰	戌
巳	辛	庚	丑	酉
午	亥	丙	戌	戌
未	甲	甲	未	亥
申	癸	壬	辰	子
酉	寅	庚	丑	丑
戌	丙	丙	戌	寅
亥	乙	甲	未	卯
子	己	壬	辰	寅
丑	庚	庚	丑	丑

Figure II.4 Auspicious and ominous combinations of branches with stems and branches.

吉凶星 年支 月支	咸池	隔角	血刃	囚獄	劫殺	亡神	驛馬
子	酉	卯	戌	午	己	亥	寅
丑	午	卯	酉	卯	寅	申	亥
寅	卯	午	申	子	亥	己	申
卯	子	午	未	酉	申	寅	己
辰	酉	午	午	午	己	亥	寅
己	午	酉	己	卯	寅	申	亥
午	卯	酉	辰	子	亥	己	申
未	子	酉	卯	酉	申	寅	己
申	酉	子	寅	午	己	亥	寅
酉	午	子	丑	卯	寅	申	亥
戌	卯	子	子	子	亥	己	申
亥	子	卯	亥	酉	申	寅	己

Figure II.5 Auspicious and ominous 'stars' from branch combinations.

say that the geographical location of birth should be taken into consideration, others would say that the weather at the time of birth was important, and some even insist on knowing the direction the baby was facing at birth. Here, correct data for the practitioners were not often come by readily. Some suggested that good deeds and misdeeds in life, past and present, would modify one's fate. A few of those practitioners who were also knowledgeable in the *Liuren* system offered another solution. Thus, we find a combination of the *Ziping* method and the *Liuren* system for fate-calculation, as referred to in Chapter 5.

The 'applicable spirit' (*yongshen* 用神)

With such a large number of possible combinations involved in the 'eight characters' and the ordinals of the 'Great Destiny' cycle, the current year, the 'fate palace', and so on, one can hardly resolve which of these are the relevant combinations to take. Perhaps the one single problem that greatly tests the skill of an expert is how to select from among the host of 'spirits' present the 'applicable spirit' (*yongshen*) that determines the whole pattern of the interpretation. Normally one can be guided by the 'standard' texts in the search for the 'useful spirit'. For a person born on a day with a *yi*

'celestial stem' (i.e. when the *riyuan* is *yi*) and in mid-autumn (i.e. the eighth lunar month), the *Qiongtong baojian* 窮通寶鑒 (Knowledge Exhausting Precious Mirror) has the following to say:

> The *qi* of *Wood* (referring to *yi*) gradually dissipates in the autumn months. In early autumn (i.e. the seventh lunar month) the *qi* of *Fire* still remains. It is desirable (that *Wood*) be nourished by watery soil (i.e. that *Water* be present). During mid-autumn *Wood* (in the form of trees and plants) already bears fruits. It is desirable to use *Metal* (in the form of scissors, knives or axes) to cut down (the fruits) and trim (the tree).

Hence one should search for *Water* in the form of the 'terrestrial branches', firstly *gui* and then *ren* and *Fire* in the form of the 'terrestrial stems' *bing* and *ding* – the combination of these 'terrestrial branches' also results in a *Fire* equivalent – from among the radicals of the lunar month concerned. If the search is successful things will be relatively simple. If not, one has to look up the 'useful spirit' from among the others of the 'eight characters' and, if there is one, its connection with the radicals of the lunar month will have to be looked into. Otherwise, one would have to look for a substitution in one or more other radicals that would together perform a similar function as the original that one was looking for. Having found the 'useful spirit', the next step would be to examine its relations with other radicals in the 'eight characters'. It is most important to know the exact state of the 'useful spirit' under such circumstances, whether it is strong or weak, and how much it is being supported or controlled by these other radicals. Just like the physician in traditional Chinese medicine, the practitioner of the *Ziping* method always looks for harmony and balance. Anything in gross excess is bad. Any of the radicals from the 'eight characters', any radical from the 'Great Destiny' cycle and the current year that brings about harmony augurs well for the subject, but any cause of imbalance is always deemed undesirable.

Conclusions

The *Ziping* method of fate-calculation provides an excellent example to illustrate the application of the traditional Chinese concepts of *li*, *qi* and *shu*. Indeed, there are only very few examples that we can find where these concepts are elaborated and exploited to the extreme. The method enables us to gain a deeper understanding of Chinese thought. Here we have a case of a combination of a 'universal' theory with observations of nature and of social relations to formulate a system employed not only in traditional China but also in modern East Asia and Southeast Asia to predict the future trends of human life.[7] The system is based in a way on results obtained from careful observation and understanding of social relationships.

Looking at it in reverse, a study of the Ming book *Sanming tonghui*, for example, may reveal some of the social problems that have not found a place in the more orthodox documentation.

In the same way, the *Ziping* method of fate-calculation can even be useful to the historian. Exponents of the *Ziping* method have left behind many case histories, some of which are available to us. Unlike the case histories of the Chinese physicians that deal with their patients, those of the fate-calculation experts are the 'eight characters' of people of the immediate past with calculations tested against their bio-data. Contemporary predictions of some personalities in history are contained in the vast ocean of Chinese literature. For example, from an early thirteenth-century record recalling a prediction made by Yang Gen 楊艮 in the year 1201 concerning Han Chazhou 韓侂冑 (1150–1207), I was able to establish the year when Han died after failing to find it in the regular way. Thus, fate-calculation may even turn into a useful source of information for the historian.[8]

One cannot conclude without making some remarks on the Chinese belief in fate. Some may draw the conclusion that the traditional Chinese were like the Romans, who embraced Stoicism as their state philosophy and believed in devotion to duty, leaving the rest to the inevitable. But the traditional Chinese talked about three types of life. It is the 'fated life' that is predictable, but by no means inevitable. It is influenced by one's behaviour, and it may also be decided from above when the *shu* of heaven takes over. In the Chinese system, one is encouraged to do good. I have read a prediction made by an exponent of fate-calculation ending with advice which reads, 'accumulated good deeds may prolong your span of life for 10 more years'. Perhaps the Chinese system of fate-calculation would have enjoyed a better reception than Stoicism and even Hellenistic astrology had it been known in ancient and mediaeval Europe!

Although, as mentioned earlier, orthodox scholars used to keep the subject of fate-calculation away at arm's length, this does not imply that their philosophy of life had nothing to do with the belief in fate. Confucius said, 'One who does not know his own fate has no way to become a *junzi*' (*buzhi ming wuyi wei junzi* 不知命無以為君子). Hence, a traditional Chinese would not strive unduly for a goal that he is not destined to achieve, but would be contented with his own fate and destiny. Some may interpret this as a negative approach to life but, on the other hand, it does offer the enquirer at least some measure of solace in time of adversity.

APPENDIX III
TABLE OF CHINESE DYNASTIES

Xia 夏 (2205–1766 BC)
Shang 商 (1766–1122 BC)
(later called Yin 殷)
Zhou 周 (1122–221 BC)
Western Zhou (1122–771 BC)
Eastern Zhou (771–256 BC)
Spring-and-Autumn (722–481 BC)
Warring States (481–221 BC)

The dates from 2205 BC to 842 BC are traditional dates. Efforts are still under way to establish actual dates. For example, over 40 different dates have been put forward to replace the year 1122 BC. Firm historical dating begins with the year 841 BC. The most recently established date for the beginning of the Zhou Dynasty is 1046 BC.

Qin 秦 (221–209 BC)
Han 漢 (206 BC–AD 220)
Western Han (206 BC–AD 9)
interregnum (9–23)
Eastern Han (23–220)
Three Kingdoms (Sanguo 三國) (220–280)
Wei 魏 (221–265) Shu Han 蜀漢 (221–263) Wu 吳 (222–280)
Jin 晉 (265–420)
Western Jin (265–316)
Eastern Jin (317–420)
Southern and Northern Dynasties (Nanbei chao 南北朝) (420–589)
Southern Song (420–479)
(Nan Song 南宋)
Southern Qi (479–502)
(Nan Qi 南齊)
Liang 梁 (502–557)
Chen 陳 (557–589)

Northern Wei (Bei Wei 北魏) (386–534)
Eastern Wei (Dong Wei 東魏) (534–550)
Western Wei (Xi Wei 西魏) (534–557)
Northern Qi (Bei Qi 北齊) (550–577)
Northern Zhou (Bei Zhou 北周) (557–581)

Sui 隋 (581–618)
Tang 唐 (618–907)
Five Dynasties (Wudai 五代) (907–960)
Later Liang (Hou Liang 後梁) (907–923)
Later Tang (Hou Tang 後唐) (923–934)
Later Jin (Hou Jin 後晉) (936–947)
Later Han (Hou Han 後漢) (947–951)
Later Zhou (Hou Zhou 後周) (951–960)

Song 宋 (960–279)
  Northern Song (960–1127)
  (Bei Song 北宋)
  Southern Song (1127–1279)
  (Nan Song 南宋)
Yuan 元 (Mongol) (1271–1368)
Ming 明 (1368–1644)
Qing 清 (Manchu) (1644–1911)
Republic (1911–1949)
People's Republic (1949–)

Liao 遼 (Qitan Tartar) (907–1125)
Xi Liao 西遼 (Qarā Khiţāi) (1125–1211)
Western Xia (Tangut Tibetan) (1038–1227)
(Xi Xia 西夏)
Jin 金 (Jurchen Tartar) (1115–1234)

NOTES

PREFACE

1 I was employed to teach physics. Only research close enough to physics would be taken account of for advancement by the physics department.
2 I take this opportunity to express my gratitude to my former employers, first the University of Malaya, Singapore, then the University of Malaya, Kuala Lumpur, and finally Griffith University, Brisbane, for allowing me to work in collaboration with Dr Needham in a field not directly relevant to the posts I filled during part of my time while on full employment at these three universities. My leaves to work in Cambridge were fully supported financially by my home universities.
3 This third stage of collaboration was carried out entirely in Australia when I was the First Chairman of the School of Modern Asian Studies, Griffith University in Brisbane. I wish to thank the Australian Research Grant Committee for a grant to employ a research assistant to look up references at the Australian National University Library and the Australian National Library in Canberra, as my official duties would have prevented me from making frequent visits to these two libraries at the time when the library at Griffith University was starting from scratch.
4 See Wu Yu-lin 伍玉玲 (1995).
5 I owe this point to Dr Wu's son, Mr Wu Chang-Sheng 伍長生 (Emmanuel 1953–1956). Dr Wu visited his son in Cambridge several times, and during his last visit made in 1956 he called on Dr Needham, showing his personal interest in the *Science and Civilisation in China* project. Chang-Sheng and his sisters Yu-lin and Ellen visited me in Cambridge during the completion of this book.
6 Quoting from Needham (1962), p.xxxiv.
7 Tan Sri Tan Chin Tuan, now in his nineties, has long retired from the Chairmanship of that bank, which is now headed by Mr Lee Seng Wee 李成偉, the younger brother of Dr Lee Seng Tee.
8 The Lee Foundation is under the care of Dr Lee Seng Gee 李成義, while one of his sisters, Ms Lee Siok Tin, involves herself in helping the Red Cross after retirement from service at the National University of Singapore. I was one of her fellow graduates at the University in Malaya with First Class Honours degrees in the year 1950 and later became one of her colleagues at the same university for over ten years.

A BRIEF NOTE ON CHINESE ROMANIZATION

1 Some are not even systematic. However, many of them are used officially rather than when written in Chinese characters, and, in fact, are the legally accepted names.

1 INTRODUCTION

1 In the twentieth century, historians of science had recognized that Qin Jiushao's method for solving numerical higher degree equations was rediscovered separately by Ruffini and Horner in the early nineteenth century. However, according to a more recent argument by Stocchi (1998), Qin's method was more 'general' than that which was used by both Ruffini and Horner and was even simpler and more practical than all the methods known until the discovery of a general solution by G. Giovarosi (1889–1944).
2 Quoting from Libbrecht, U. (1973).
3 A vast amount on the subject of Chinese divination has been written. For a brief account see, for example, Needham, J. (1956), for a more detailed exposition see Smith, Richard J. (1991), and for a more recent approach from a different angle see Poo, Mu-chou (1998). Full-scale investigation of the subject is being carried out by the Divination, Science and Society in Mediaeval China project led by Marc Kalinowski and also at the Institute of History, National Tsing Hua University, Hsinchu, Taiwan.
4 For Chinese astrology, see Appendix I. See also Ho Peng Yoke (1965) and Ho Peng Yoke and Ho Koon-piu (1986). For divination, see Loewe, Michael (1988b).
5 See Ho Peng Yoke (1991c).
6 *Xiangshu* is rendered as 'Regularities underlying the Phenomena' in Sivin (1982) and 'the Doctrine of Images and Lines' in Fung Kam-wing (1987). There is as yet no generally adopted translation.
7 See Kim Yung-sik (1995).
8 See Yan Dunjie (1985) and a Japanese translation by Hashimoto and Sakade in *Science and Skills in Asia* (Kyoto, 1982).
9 This work is not meant to replace the need for a full translation of Yang's works or other standard texts on the three cosmic boards. On the contrary, it is hoped that those who undertake such translations will find this work a useful reference.
10 See Fung Kam-Wing (1989) for an account of the publications of Yang Weide. Fung subsequently showed me a text by Yang that bears his official title as Director of the Astronomical Bureau.
11 I owe this point to M. Kalinowski.
12 Ho Peng Yoke (1988) gives an example of the application of the art of fate-calculation to check the date of a Song personality.
13 In West, Andrew (1998).
14 *Wuli* is the modern Chinese term for physics.
15 See Chang Yung-tang (1994) and Fung Kam-Wing (1989).
16 See Dampier, W.C. (1948), p.292.
17 View expressed in Ho Peng Yoke (1998).
18 A verse entitled *Li Weigong wang Jiangnan* 李衛公望江南 (Duke Wei Li Glancing the Region South of the Yangzi), containing references to the three cosmic boards, has been attributed to this famous Tang military commander. Jao, Tsung-i (1990) gives this work a Song origin.
19 No doubt there is a certain amount of inconvenience, but arbitrary enforcement of uniformity of romanization of Chinese personal names creates problems reminiscent of a futile attempt to standardize the spelling of English and Scottish names, especially when these versions have been adopted by the individuals officially.

2 FUNDAMENTAL PRINCIPLES

1 For a more detailed account see, for example, Needham, J. (1956) and Ho Peng Yoke (1985).
2 See Ho Peng Yoke (1985a).
3 See Chang Yung-tang 張永堂 (1987), *Mingmo Fangshi xuepai yanjiu chubian* 明末方氏學派研究初編 (Preliminary Study of the Fang School of Thought at the End of the Ming Period) (Taipei) and Chang Yung-tang (1994), *Mingmo Qingchu Lixue yu Kexue guanxi zailun* 明末清初理學與科學關系再論 (Further Discussion on the Relation between *Lixue* and Science at the End of the Ming and the Beginning of the Qing Dynasty) (Taipei).
4 Also see Ho Peng Yoke (1985a).
5 These are the Hindu equivalent of the 'Four Elements', namely *prthivī-dhātu* (earth), *ab-dhātu* (water), *tejo-dhātu* (fire), and *vä yu-dhātu* (wind). They are associated with the nature of solidity, fluidity, warmth and motion respectively. They were rendered into Chinese as *dida* 地大, *shuida* 水大, *huoda* 火大, and *fengda* 風大 when the Buddhist took them along to China.
6 Kalinowski, M. (1991), *Cosmologie et Divination dans la Chine Ancienne: Le Compendium des Cinq Agents* (Paris). For annotations of the *Wuxing dayi*, see Nakamura, Shōhachi 中村璋八 (1984), *Wuxing dayi jiaozhu* 五行大義校註 (Annotations of the *Wuxing dayi*) (Tokyo). See also Kalinowski, M. (1990), 'Scientific Literature in the *Wuxin dayi*', Sixth International Conference on the History of Science in China, 2–7 August 1990, Cambridge.
7 For a more detailed account, see Cullen (1986).
8 For graphical representations of the phases of the *wuxing*, see Ho Peng Yoke (1985).
9 *Juan* 2, p.6a.
10 In the *Dunjia* section *Dunjia jingzuan* 遁甲經纂.
11 See Smith (1991). Intensive research on this topic is being pursued by Huang Yi-Long at the National Tsing-Hua University, Hsinchu. See, for example, Huang Yi-Long (1999), 'A Study on the Tradition of Selecting of Auspicious Time and Space in Chinese Society through the Strips Excavated at Yinwan Han Tomb' (in Chinese), Paper presented at the Fifth Conference on the History of Chinese Science, Nankang, 27–28 March 1999. Yano Michio is undertaking a similar investigation of the Japanese almanac.
12 See Chapter 3, Figure 3.2.
13 See Needham, J. (1959), *Science and Civilisation in China*, 3:55–62. On the subject of magic squares in general, see Andrews, W.E. (1908), *Magic Squares and Cubes* (Chicago). On Chinese magic squares see, for example, Li Yan 李儼 (1935), *Zhongsuanshi luncong* 中算史論叢 (Collected Papers on the History of Chinese Mathematics) (Shanghai); Ho Peng Yoke (1973), 'Magic Squares in East and West', *Papers in Far Eastern History* 8:115–141; Lam Lay Yong (1977), *A Critical Study of the Yang Hui Suan Fa* (Singapore University Press, Singapore); Lih Ko-Wei 李國偉 (1986), 'Lun Bao Qishou de huanyuantu 論保其壽的渾圜圖' (On Bao Qishou's Magic Circles), *Kejishi tongxun*, 5 (Supplement), 2:67–79; and Wang Rongbin (1990), 'Ding Yidong dui zonghengtu de yanjiu 丁易東對縱橫圖的研究' (Ding Yidong's Study on Magic Squares), *Shuxueshi yanjiu wenji*, 1:74–82.
14 Volkov, Alexi, observes the numerological aspect of this book in Volkov, A. (1999), 'From Numerology to Arithmetic: the Early Chinese Counting Devices', Sixth Symposium on the History of Science and Technology, Nankang, Taipei, 26–27 March 1999.
15 According to Chinese tradition, this system of the *Yijing*, also known as *Zhouyi* 周易, is one of the three that survives. The other two were the *Lianshan* 連山 and the *Guizang* 歸藏 systems.

16 Luo Guicheng 羅桂成 (1982), *Tang-Song Yin-Yang wuxing lunji* 唐宋陰陽五行論集 (Collections of Tang and Song Discussions on the *Yin* and *Yang* and the *wuxing*) (Hong Kong) collects many items on the *Hetu* and *Luoshu* from the Tang and Song periods.
17 The number 9 and the number 4 represent *Metal*. In the system of the *Yijing*, *qian* 乾 represents both heaven and *Metal*. Nine is the largest single digit number in the decimal system. The numbers 5 and 10 both represent *Earth*. In the system of the *Yijing*, *kun* 坤 represents both earth and *Earth*. The importance of the number 5 is shown in the central position of the *Luoshu* Chart.
18 See Needham, J. (1956) *Science and Civilisation in China*, vol. 2 (Cambridge University Press), pp.280ff.
19 See Jao Tsung-i 饒宗頤 and Zeng Xiantong 曾憲通 (1982) *Yunmeng Qinjian Rishu yanjiu* 雲夢秦簡日書研究 (On the Qin Bamboo Slips *Book on Day Selections* recovered in Yunmeng) (Chinese University of Hongkong Press, Hong Kong).
20 See Anderson, Poul (1989–90), 'The Practice of *Bugang*', *Cahiers d'Extrême-Asie* 5. I owe this point to M. Kalinowski.
21 The origin of Nine Colour-Quadrates remains unknown. I owe this point to M. Kalinowski.
22 See Smith (1991), pp.78–79.
23 The Japanese example is taken from an almanac produced in a shrine and given to me by the wife of Professor Suguro Hiroshi 勝呂弘 when I visited their home in Urawa 浦和 in 1976. We were then having a conversation on the influence of Chinese culture in modern Japan. Note that the calendars published in 1985 and 1976 in Hong Kong and Japan respectively still adopt the traditional Chinese custom of putting south at the top and north at the bottom in the compass, but a luni-solar calendar for the year 1995 published in Taiwan follows modern convention by turning the traditional system through an angle of 180 degrees. Meanwhile, the modern convention is already used among some *fengshui* practitioners in Hong Kong.
24 For the Eight Gates, see Chapter 4.
25 See Huang Yi-Long (1992b), 'Dunhuang ben juzhu liri xintan' 敦煌本具注曆日新探 *Xinshixue* Xinshixue 3.4:1–56. Earlier use of the *jianchu* cycle is given in Jao Tsung-i and Zeng Xiantong (1982).
26 For a concise account of early Chinese calendars see Cullen, C. (1996). In the West, the cycle of 235 lunations in 19 years is named after Meton of Athens (fl. 430 BC), see Neugebauer (1975).
27 See, for example, Shinsei Shinzō (1933).
28 Needham, J. (1959), *Science and Civilisation in China*, vol. 3 (Cambridge).
29 See Qu Anjing (1992a), 'Dong Han dao Liu Song shiqi lifa shangyuanjinian jisuan 東漢到劉宋時期曆法上元積年計算', *Acta Astronomica Sinica*, 32.4:436–439 and Qu Anjing (1992b) 'Tang Song lifa yanji shangyuan shili ji suanfa fenxi' 唐宋曆法演紀上元實例及算法分析, *Studies in the History of Natural Sciences*, 10.4:315–326.
30 Data extracted from Zhu Wenxin 朱文鑫 (1934), *Lifa tongzhi* 曆法通志 (Shanghai).
31 For Guo Shoujing see, for example, Ho Peng Yoke (1993), 'Kuo Shou-ching', Igor de Rachewiltz *et al.*, *In the Service of the Khan: Eminent Personalities in the Early Mongol-Yuan Period (1200–1300)*, Wiesbaden, pp.282–299.
32 See Kalinowski (1991).
33 See Ho Peng Yoke (1991d), 'Chinese Science: the Traditional Chinese View', *Bulletin of the School of Oriental and African Studies*, 65.3:506–519 and Ho Peng Yoke (1995), 'Cong kejishi guandian tan yishu' 從科技史觀點談易數 (The *Yijing* system of divination from the standpoint of history of science) (in

Chinese), *Zhongguo kejishi lunwenji* 中國科技史論文集 (Collected Papers on the History of Chinese Science and Technology) (Taipei), 19–34.

34 Note that the word *yi* 儀 will be used in a different sense when it refers to six different stem–branch combinations in the system of *Qimen Dunjia* 奇門遁甲. See Chapter 4.

35 Modern convention is already adopted by many modern *shushu* practitioners.

3 THE *TAIYI* SYSTEM IN THE THREE COSMIC BOARDS

1 See Li Ling (1995–96).

2 See *Tang liudian*, *juan* 14. I owe this point to M. Kalinowski.

3 See Yan Dunjie 嚴敦杰 (1985) 'Shipan zongshu 式盤綜述', *Kaogu xuebao* 4:445–464. This refers only to the *Taiyi* method in the three cosmic board systems. There were other schools of *Taiyi*. *Shiji* (*juan* 127, *Rizheliezhuan* 日者列傳) mentions a *Taiyi* school (*Taiyijia* 太一家) at the time of the Han emperor Wudi.

4 See Ho Peng Yoke (1996a) 'The Tai-i Method of Divination and the Historiographer's Remarks in the Chronicle of Emperor Kao-ti in Nan-Ch'i-shu' (in Chinese), *The Bulletin of the Institute of History and Philology*, Academia Sinica, 62.2:383–413.

5 All the technical terms involved are explained under the section on the *Taiyi* method on pp.42ff.

6 Should read '*Canjiang* 參將' (Lieutenant) instead of '*Canxiang*'.

7 The two Generals were not 'confined' according to the *Taiyi* board calculated for the year. However, in the following sub-section on 'The *Taiyi* cosmic board' two important indicators on the fortune at battles, known as the 'Host Count' and the 'Guest Count', will be described. For this particular case, the Host Count is 16 and the Guest Count 3. The interpretation is that the host was favoured rather than the guest.

8 The following sub-section on 'The *Taiyi* cosmic board' also mentions the number of combinations of the setting up of the cosmic board, known as *ju* 局 (Configurations). There are 360 Configurations each for the *Yang* and the *Yin* order. The year mentioned gives rise to Configuration 222, but it does not show the occurrence given in the text. What the text says would have happened 120 years earlier in Configuration 102 when *Taiyi* would have been in the same palace as in Configuration 222.

9 According to Configuration 234 for that year, both the Guest General and the Lieutenant would be found in the centre of the board, an indication that they would be unable to play any active part in the war.

10 'That year' should read 'The 3rd year of the Shengming reign-period' for the passage to make sense, or else *Taiyi* would not have been in Palace Eight.

11 *Liangshu*, *juan* 35.

12 See Yamada Keiji 山田慶兒 (1980).

13 Many names used by the Mesopotamians for heavenly bodies were the same as those applied to deities. Venus, for example, was the goddess Inana to the Sumerians and the goddess Ishtar to the Akkadians, though also known by the name Delebat which, although taking a divine determinative, was not a name applied to anything other than the planet. See Brown, D., *Mesopotamian Planetary Astronomy-Astrology* (2000). See also *Enuma Anu Enlil, tablets*. I owe this point to Dr David Brown of Wolfson College, Oxford.

14 See for example *Wuxing dayi*, *juan* 5, pp.1b–2a and Kalinowski, M. (1991). Nevertheless, a commentary by Liu Bozhuang 劉伯莊 on the Astronomical Chapter of the *Shiji* states that *Taiyi* is the most exalted deity.

15 This is stated in the opening sentence of the Astronomical Chapter (*Tianguanshu* 天官書). See *Shiji*, *juan* 27.

16 See Qian Baozong 錢寶琮 (1932) '*Taiyi* kao 太一考', *Yanjing xuebao*, 12:2449–2479.
17 In *Guisi leigao, juan* 10, on *Taiyi* and *Tianyi* and *Taiyi* riding on the Plough.
18 See Ho Peng Yoke (1966).
19 See Ho Peng Yoke (1966), p.80.
20 See *Shiji*, *juan* 28 *Fengshanshu*.
21 For Shen Gua, see further Chapter 5.
22 For the winds in numerology, see Loewe, Michael (1988b), 'The Oracles of the Clouds and Winds', *Bulletin of the School of Oriental and African Studies*, 51.3:500–520. *Taiyi* and *Bafeng* also had a part to play in traditional Chinese medicine. *Taiyi* made sojourn in different parts of the body at different periods. See Zinine, Serguei (1998), 'Numerological Restrictions in Traditional Chinese Medicine: *Taiyi* and Ba Feng Case', Paper presented at the Eighth International Conference on the History of Chinese Science, Berlin, 26–29 August 1998.
23 See Pang Pu (1999).
24 *Juan* 5, pp.3aff. See Kalinowski, M. (1991).
25 For wider meanings of the word '*dun* 遁', see section on *Dunjia* 遁甲.
26 In *Gujin tushu jicheng*.
27 Here the example given is to find n from j and p in equation (2). It is equally simple to find n from y and q in equation (3). Tables are provided in Ho Peng Yoke (1996b), '*Taiyi shushu jiqi dui chuantong kexue de yingxiang* 太乙術數及其對傳統科學的影響', *The History of Science Newsletter* (Taipei), 14:1–12.
28 This method is worked out specifically for the Historiographer's 'Remarks'. It does not replace the use of the Superior Epoch in general. It was not used in traditional China either.
29 *Taisui* is simply the branch of the year.
30 In *Xin Yuanshi juan* 241, *liezhuan* 139.
31 Senior-ranking officials would use the month, known as *yueji Taiyi* 月計太乙, and others in position would use the day, known as *riji Taiyi* 日計太乙, for working out the *Taiyi* configuration on the cosmic board, all based on the ancient Superior Epoch. Methods of calculation are described in the Ming text *Taiyiju*.
32 Note that in the battlefield the white flag used in traditional China did not have its modern meaning. It could be used to comply with the principles of *wuxing* or it could be used as a sign of mourning. In the past, the recommended shape of a battle formation was determined by *wuxing*. Some modern *fengshui* experts select auspicious shapes of buildings for different professions and for clients born on different dates.
33 See *Wubeizhi, Taiyi miaosuan* section.
34 See *Yuan mishujianzhi, juan* 7, p.5b.
35 See Appendix II and for further details see, for example, Ho Peng Yoke (1988), *Cong li qi shu guandian tan Ziping tuimingfa* 從理氣數觀點談子平推命法 (Hong Kong University Press, Hong Kong).
36 The independent nature of Chinese astronomy is given in Nakayama Shigeru 中山茂 (1979), *Senseijitsu* 占星術, Tokyo, esp. pp.30–32. See Appendix I on traditional Chinese astrology.
37 See Pingree, D. (1978) and Pingree, D. (1999), the latter being a paper presented at a conference dedicated to discussing calculations of Indian horoscopes according to Muslim models in the seventeenth century.
38 This book also shows the connection between the lunar mansions and different parts of the human anatomy. See Yano (1986).
39 A comprehensive description of Yixing's work in astronomy is given by Ang Tianse (1979), *I-Hsing (683–727* AD*): His Life and Scientific Work*, PhD dissertation, University of Malaya, Kuala Lumpur.

40 See *juan* 24, p.19.
41 In *juan* 8, p.2.
42 See *juan* 191.
43 See *juan* 54.
44 See Yano Michio 矢野道雄 (1986), *Mikkyō no senseijitsu* 密教の占星術 (Tokyo).
45 See Ishida Mikinosuke 石田幹之助 (1950), p.49.
46 In the Hepburn system adopted for Japanese names in this book, 'Yabuuti Kiyosi' should read 'Yabuuchi Kiyoshi'. An exception is made here to respect the owner's personal preference to render his own name in the Japanese national system of romanization.
47 In *juan* 7 and *juan* 10.
48 See Yano (1986) and also Niu Weixing and Jiang Xiaoyuan (1998), 'On the Ephemerides in *Qiyao rangzaijue*', Paper presented at the Third International Conference on Oriental Astronomy, Fukuoka, 26–29 October 1998.
49 *Juan* 697 to *juan* 702.
50 See Needham, J. (1956), *Science and Civilisation in China*, vol. 2 (Cambridge), and Yano Michio (1986). As seen in this chapter, it is evident that the term 'Chinese astrology' referred to in the explanatory note attached to the diagram in Needham (1956) needs to be qualified when the horoscope in question applies only to one branch of Chinese astrology. Yabuuti (1999) is the ninth reprint of Yabuuti (1970).
51 P.134.
52 I owe this to Yano for his gift of Yano, M. (1997), *Kūyār Ibn Labbān's Introduction to Astrology* (Tokyo). From the *Mingyi tianwenshu* one can detect a detailed version of Hellenistic astrological medicine, which differed from the traditional application of *shushu* to Chinese medicine.
53 For further details on the origin of the *Ziwei doushu* system, see Ho Peng Yoke (1993).
54 See Huang Yi-Long (1993), 'Qing qianqi dui *siyu* dingyi ji cunfei de zhengzhi – shehui tianwenxueshi gean yanjiu 清前期對四餘定義及存廢的爭執：社會天文學史個案研究', *Ziran kexueshi yanjiu*, 12.3:201–210; 12.4:344–354.
55 *Juan* 19.
56 This was done simply by referring to sets of tables without having to look at the stars nor consult a modern Nautical Almanac. Figure 3.21b is another recasting performed by a practitioner in Taiwan using a slightly different version of the *Ziwei doushu* method. This is essentially the same as Figure 3.21a although it uses a circular horoscope instead of a square one. According to the practitioner, the subject would not have become a civil official or a scholar, but could have some achievement in business or industry. The original fourteenth-century interpretation was that the subject would lead an ordinary life, perhaps meaning that the subject would not become a civil official or man of any importance.
57 *Yishudian, juan* 697 to 702.
58 These terms appeared in the *Wuxing dayi*, *juan* 5 p.2a. See Kalinowski (1991). It says that *Tianyi* manages *Yutang* at the stems of *jia, wu geng* and *ren*, *Mingtang* at *yi*, *ji*, *xin*, and *Jianggong* at *bing, ding* and *gui*. They were used in a different sense in the *Taiyi rendao minfa*. The term *Jianggong* originally meant a palace hall painted in the traditional Chinese red colour and *Mingtang* was a ceremonial palace hall where the emperor performed sacrificial offerings. The heart was also referred to as *Jianggong* (the Scarlet Hall) or *Jiangzhang* 絳帳 (Hall formed by Scarlet Tapestry). *Yutang* was also referred to as *Yuzhang* 玉帳 (Hall formed by Jade-Like Tapestry), often referring to the military barracks of the commanding officer and hence some books with titles bearing this name were military manuals using the three cosmic boards.
59 See, for example, a modern text for the practitioner of the art, Liaowu jushi, *Doushu paipan sucheng* 斗數排盤速成, p.79.

4 *QIMEN DUNJIA*: STRANGE GATES ESCAPING TECHNIQUES

1 *Juan* 82a, *liezhuan* 72a.
2 For detailed discussion on the meaning of the term '*dunjia*', see Yu Zhengxie's 俞正燮 *Guisi leigao* 癸巳類稿 *juan* 10. Ngo Van Xuyet (1976) contains a brief description of *Dunjia*.
3 See *Nanshi* (Official History of the Southern Dynasties), *juan* 9 on Emperor Wudi and *juan* 66, Biography of Wu Mingche. Biographies of exponents of *shushu*, including the three cosmic boards, fall within the investigation of Chang Yung-tang in his project mentioned in the Preface.
4 See *Beishi* (Official History of the Northern Dynasties), *juan* 89, Biography of Xindu Fang.
5 See *Beishi, juan* 89, Biography of Lin Xiaogong.
6 See *Beishi, juan* 171, Biography of Shu Renliang.
7 *Juan* 32.
8 Yang Weide's name is also given as 楊維德.
9 See *Liutao, juan* 3, p.8a.
10 In *Yunji qiqian*, *juan* 15, pp.1ff.
11 Zhuge Liang gains many military successes, makes weather forecasts and changes wind direction with the *Qimen Dunjia* system. Using the *Liuren* method, he gained advance information on another military success before the report arrives. See Chapter 5. The *Quan Sanguowen* 全三國文 (Complete Collection of Three Kingdoms Period Literary Writings) contains a memorandum by Zhuge Liang to Liu Bei 劉備 warning that, according to the *Taiyi* calculations he made, that particular year, which was a *guisi* year (AD 213), was ominous for the Commanding General in battle. Before the memorandum reached Liu Bei his Commanding General Pang Tong 龐統 had already lost his life in an enemy ambush. While all these are insufficient evidence to show that Zhuge Liang was actually knowledgeable of all the three cosmic boards, they certainly contributed to the mystification of these systems.
12 In *houji juan* 21, *Dunjia fa*.
13 Cf. Chapter 5 on the Twelve Heavenly Generals.
14 *Juan* 9.
15 The deities of the Nine Stars, known as *Dunjia jiushen* 遁甲九神, are described in some detail in *Wuxing dayi* (*juan* 5). See Kalinowski (1991). Hence the rudiments of *Qimen Dunjia* should have already been known not later than the sixth century.
16 I have not been able to find any explanation on the name *zhamen*. The word '*zha*' (deception) probably conceals the military purpose of the gates, reminding us of the often-quoted words that the art of war is the art of deception, as exemplified by Li Jing's conversation with the Tang emperor Taizong in Chapter 1.
17 This was the date and time when a demonstration of the *Qimen Dunjia* system was performed as illustration at a seminar on the *Huangdi yinfujing* at the Institute of History and Philology, Academia Sinica, Nankang.
18 See *Songshi* 宋史, *juan* 112. This charlatan employed 7,777 men to defend the city. The men were selected not on their abilities but on their dates of birth corresponding with the *jia* stem. The method he used was certainly not that of *Qimen Dunjia*.
19 See also Chapter 2.
20 See Figure 4.6 but note that in the traditional system the Nine Palaces and the Trigrams showing direction remained fixed and did not shift their positions on the heaven board.

5 *LIUREN*: THE ART OF THE SIX *YANG WATERS*

1 Kalinowski, M. (1983), 'Les instruments astro-calendriques des Han et la méthode liuren', *Bulletin de l'École Française d'Extrême-Orient*, 72:309–410.

2 See Needham, J. (1956), p.267.

3 See, for example, critical editions of the *Mengxi bitan* by Hu Daojing 胡道靜 (1985) (Guji chubanshe, Shanghai) and by Umehara Kaoru 梅原郁 (1979) (Tô yô Bunko, Tokyo). For discussions on the author and the book see, for example, Holzman, D. (1958), 'Shen Kua and His Meng-Ch'i Pi-Tan', *T'oung Pao*, 46:260–292, Teraji, Jun 寺地尊 (1967), 'Shin Katsu no shizen kenkyū to sono haikei', *Hiroshima daigaku bungakubu kiyō*, 27.1, Sivin, N. (1975), 'Shen Kua', *Dictionary of Scientific Biography* (New York: Scribner), pp.369–393, Sivin, N. (1982), 'Why the Scientitific Revolution Did not Take Place in China – or Didn't it?', *Chinese Science*, 5:45–66, Joël Brenier *et al.* (1989), 'Shen Gua (1031–1095) et les sciences', *Revue d'Historie des Sciences*, 42.4:333–351, Fu, Daiwei (1993–1994), 'A Contextual and Taxonomic Study of the "Divine Marvels" and "Strange Occurrences" in the *Mengxi bitan*', *Chinese Science*, 11:3–35, and Lei, Hsianglin 雷祥麟 and Fu, Daiwei 傅大為 (1993), 'Language and Similarity in the Dream Brook – Study of Prognostication, Divine Oddities, and Strange Events in *Mengxi bitan*', *Tsing Hua Journal of Chinese Studies*, 23.1:31–60. See website on *Mengxi bitan* by Fu Daiwei.

4 In *juan* 7. The term *xiangshu* has been variously rendered. See Ho Peng Yoke (1991c).

5 Translated by the author.

6 The *Zhuanxu* calendar was named after the traditional emperor Zhuanxu (traditional date 2513 BC), but Zhu Wenxin 朱文鑫 (1934) has pointed out that it was based on astronomical data of the fourth century BC. It was used from the time of Qin shihuangdi 秦始皇帝 in 246 BC to the year 104 BC in the reign of Han Wudi 漢武帝, when it was replaced by the *Taichu* 太初 calendar. A specimen of the *Zhuanxu* calendar covering the period of only one year was recovered in Mawangdui and studied by Chen Jiujin and Chen Meidong (1978), 'Cong Yuanguang lipu he Mawangdui boshu *Wuxingzhan* zaitan *Zhuanxuli* wenti 從元光曆譜和馬王堆帛書五星占再探顓頊曆', *Zhongguo tianwenxueshi* wenji (Beijing). Counter-Jupiter, known variously as *Suiyin* 歲陰, *Taiyin* 太陰 and *Taisui* 太歲, was an imaginary heavenly body that moved in the opposite direction to Jupiter. Counter-Jupiter at *yin* corresponding to Jupiter at *hai* and Counter-Jupiter at *mao* corresponding to Jupiter at *xu*, etc., were extrapolations to the time when the founder of the Zhou dynasty Wuwang 武王 defeated the last Yin 殷 king. Liu Xin 劉歆 in the first century BC gave the date as 1122 BC, but there has been much dispute over the actual year when this took place. Scholars in the twentieth century were particularly active over this issue. More than 40 different dates have been suggested, varying from 1130 BC to 1011 BC. Beijing Shifan Daxue (1997) published a comprehensive survey of these dates. Meanwhile, a detailed study by Hwang, Chang-chien (1999) suggests 1106 BC as the year when King Wuwang defeated Zhou 紂, the last king of Yin, but yet an even more recent report made by Li Xueqin *et al.* (2000), the result of a five-year research programme by a team of experts, favours the year 1046 BC. Lee Eun-Hee (2000) has also independently established the year 1046 BC from analysis of Western Zhou astronomical phenomena. However, Jiang Xiaoyuan and Niu Weixing (2000) give 1044 BC as the year. The date seems to be now quickly converging.

7 Another factor was the synodic period of Jupiter not being exactly 12 years.

8 Lodge is now more fashionable than lunar mansion in the rendering of the term *xiu* 宿. The reason for the choice here is merely sentimental.

9 *Juan* 27, *Tianguanshu* 5.
10 In *juan* 10 '*Liuren* gushi kao 六壬古式考'.
11 In the sixth-century book by Xiao Ji 蕭吉, the *Wuxing Dayi* 五行大義, this is called *Weiming* 微明 (Dim Brightness). See Kalinowski, M. (1991), *Cosmologie et divination dans la Chine Ancienne: le compendium des cinq agents* (Paris). A commentary of the passage says that the first character was changed to avoid having a similar sound as the character *zhen* 禛 in the name of the Song emperor Renzong 仁宗, by reading *Weiming* as *Zhengming* 徵明 (Summoning Brightness). Quoting from an earlier apocryphal treatise, the *Xuannu shijing* 玄女拭經 (Manual on the Xuannu's cosmic board), Xiao Ji mentions elsewhere in the *Wuxing dayi*, '*Hai* is called *Weiming* 微明 (Dim Brightness) (because) the brightness within its *Water* body is not visible outside, and summoning together (*zheng* 徵) (all) its *Yang qi*, brightness is due when (the next terrestrial branch) *zi* comes forth'. Perhaps this was how the term *zhengming* (Summoning Brightness) originated. Yu Zhengxie's *Guisi leigao* (*juan* 10, *Liuren gushi kao*) points out that the term *Dengming* was already in use before the Song period, for example in the *Lun Heng* 論衡 and the *Wu-Yue chunqiu* 吳越春秋, and hence the commentary was incorrect.
12 Wu 物 refers to *zhiwu* 稙物, and *genkui* 根魁 (sprout from the root) refers to sprouting.
13 See Chapter 3 on the term *Taiyi*.
14 The word '*chong*' is interpreted here as 'to raise up from below' as in the case of the phrase '*nu fa chong guan* 怒髮衝冠' – extreme anger raising the hair that in turn lifts up the hat.
15 Quoting from what the *Yijing* says about the second *Yang* line in the *qian* 乾 Hexagram.
16 The fourth lunar month is represented by the *qian* 乾 Hexagram with six *Yang* lines, while the fifth lunar month is represented by the *gou* Hexagram with a *Yin* line at the bottom.
17 Note the use of the *Yang* line to represent those in official position and the *Yin* line to represent the common people.
18 The *Taiwei* Enclosure, consisting of stars in Ursa Major, Leo, Virgo and Coma Berenice, was one of the three Enclosures in traditional Chinese astronomy (and astrology). Together with the *Ziwei* 紫微 Enclosure it was employed by the court astrologer to make predictions on matters pertaining to the emperor, the imperial household and officials around the emperor. The deity *Taiyi* ascends the steps of the *Santai* 三台 (Three Platforms) while performing his duties, according to the Astronomical Chapters of the *Jinshu*. *Santai* consisted of six stars in Ursa Major within the *Taiwei* Enclosure. See Ho Peng Yoke (1966), *The Astronomical Chapters of the Chin Shu* (Paris), p.80.
19 A commentary says that the Ladle of the Plough is called *gang* while the first group of stars of the Azure Dragon is called *Kang* (which forms a) straight (line) with the Ladle. This probably refers to the determinant star of *Kang* lunar mansion being approximately along the same longitude as the last star of the Ladle.
20 The bottom *Yin* line in the *kun* 坤 Hexagram for the 10th lunar month is replaced by a *Yang* line in the *fu* 伏 Hexagram for the 11th lunar month.
21 Should probably read *chou* 丑.
22 Obviously the term *Shangdi* used here is not to be confused with the modern Christian adoption of the term for God.
23 *Juan* 2.
24 See, for example, Rhine, J.B. (1937), *New Frontiers of the Mind*, first published 1937 (Pelican, London, 1950), but currently not quite fashionable.
25 I.e. from the time of the Han *Huainanzi* until the late Qing *Guisi leigao*.

26 *Mao, chen, si, wu, wei* and *shen* are daytime double-hours, while *zi, chou* and *yin* are double-hours from midnight to before sunrise, and *you, xu* and *hai* are double-hours after sunset to before midnight.
27 They were meant to be committed to sheer memory and a learner would seldom ask for an explanation.
28 In *juan* 7, p.13a.
29 This adoption of this method by *Liuren* operators did not seem to be universal. The Ming writer Li Ruzhen 李汝珍, for example, argued in favour of a classification from *zi* to *si* as Day Noble One and from *wu* to *hai* as Night Noble One. See *Jinghuayuan*, *hui* 76.
30 In Yan Dunjie (1985). There was not only one person known by the same name Chen Liangmo in the Ming period. We know of at least one writer and one civil servant with the same name, but these two did not fit in with the date mentioned. The Chen Liangmo in question appeared to be an exponent of the art of *Liuren* of considerable prestige, probably one who had worked in the Astronomical Bureau.
31 The book bears a preface dated 1810.
32 In *hui* 102.
33 In *Yishudian, juan* 706.
34 See Appendix II on fate-calculation.
35 The phases are described in Chapter 2.
36 *Sanguo yanyi, hui* 53. Cf Zhuge Liang in Chapter 4.
37 *Juan* 10.
38 In *Yishudian, juan* 720.
39 There were two of them. The other went by the name Da Bu Tong 大不同, but did not seem to have left behind any writing. I owe this point to my friend and former colleague at the University of Malaya, Kuala Lumpur, Professor Su Ying-hui 蘇熒輝, who knew Yuan personally as a friend of his father and had helped Yuan in collecting material for his *Mingpu* 命譜 in his youth. Su's father also wrote a preface for Yuan in the same book. I also had opportunities to talk about Yuan with Professor Liu Tsun-yan 柳存仁, who knew about this famous diviner in Shanghai. For further reference to Yuan Shushan, see Smith (1991).
40 Much has been written on this remarkable sixteenth-century mathematician who was at the same time an astrologer, a physician and a natural philosopher. See, for example, Bellini, Angelo (1947), *Girolamo Cardano e il suo tempo* (Milan) and Morley, Henry (1854), *The Life of Girolamo Cardano of Milan, Physician*, 2 vols (London).
41 See Ho Peng Yoke (1988) for an account of Yuan's own horoscope.
42 Reminding one of what Laozi says in the *Daodejing* 道德經, wuwei 無為 section, about *tianxia zhi zhiruo* 天下之至柔 – what is the most malleable under the heavens.

APPENDIX I

1 See Ho Peng Yoke (1966), *The Astronomical Chapters of the Chin Shu*, Mouton (Paris). Identification of Chinese stars with modern star names has been carried out since the Jesuits worked in the Chinese Astronomical Bureau in the seventeenth century until modern time. Of course, absolute certainty in identification cannot be expected. As a general rule, the brighter the star the greater the certainty. Chinese stars and asterisms referred to in this book are marked on modern star maps epoch 2000 in Star Maps I.1 to I.6.
2 Tr. Legge, James (1861), *The Chinese Classics*, vol.1, book 2, ch. 1 (London) (reprinted Hong Kong).
3 See Ho Peng Yoke (1966).
4 See Needham (1959), p.250.

5 See Ho (1966), pp.78–80.
6 See Ho (1966), pp.78–80.
7 See Ho (1966), p.98.
8 See Ho (1966), p.98.
9 See Ho (1966), pp.100–101.
10 For haloes and parhelia see, for example, Ho and Needham (1959), 'Ancient Chinese Observations of Haloes and Parhelia', *Weather*, 14:124–134; for clouds and vapour see, for example, Ho Peng Yoke (1985b), 'A long lost astrological work: the Dunhuang MS of the *Zhan yunqi shu*', *Journal of Asian History*, 19.1:1–7, and Ho Peng Yoke and Ho Koon-piu (1986), *Dunhuang canjuan Zhan yunqi shu* 敦煌殘卷占雲氣書, I-wen Press (Taipei).
11 See Ho (1966), p.78.
12 *Jinshu, juan* 13, p.17b; see Ho Peng Yoke (1966).
13 *Shiji*, *juan* 38, p.15b. Transtated by the author.
14 See *Jinshu*, *juan* 13, p.17b.
15 See Ho Peng Yoke (1964), 'Natural Phenomena Recorded in the *Dai-Viêt Su'-ky Toan-thu*'', *Journal of the American Oriental Society*, 84.2:127–149.

APPENDIX II

1 The benefit of the expert advice from Professor Ho Ping-ti is gratefully acknowledged. Apart from this, we once had a chat about our names as our ancestors both came from the same district in Zhejiang province. He asked why the second character in my name did not have a *Fire* radical like his. I replied that, being born in the south, my father considered it unnecessary to add *Fire* to a character that already indicated *Fire*. He nodded in agreement and remarked that my father must have known something about the art.
2 For the first scholarly writing on the subject of fate-calculation, see Chao Wei-pang (1946), 'The Chinese Science of Fate-calculation', *Folklore Studies*, 5:279–315. Needham (1956) refers to this paper and finds no necessity to elaborate. For a more recent study, see Smith (1991).
3 Ho Peng Yoke (1988), *Cong Li Qi Shu guandian tan Ziping tuimingfa* 從理氣數觀點談子平推命法 (The *Ziping* Method of Fate-calculation from the Viewpoint of *Li*, *Qi* and *Shu*), Hong Kong University Press (Hong Kong).
4 This point is discussed in Ho Peng Yoke (1991b), '*Suanming shi yimen kexue me* 算命是一門科學麼?' (Is Fate-calculation a Branch of Science?) *Xuecong* 3:1–19. In one of the Smuts Lectures delivered by Wang Gungwu in Cambridge in November 2000, it was pointed out that this term was first used by the missionaries in China to refer to those who believed in folk religions and others but, since the May Fourth Movement, the Chinese had borrowed it to refer to things unscientific and to all irrational beliefs. Within the context of this book, my preference is my own interpretation.
5 See, for example, Chigusa Ken (1977), *Shichū suimeigaku* (Tokyo, 24th reprint 1981) and Chon Yonmo (1985), *Kiseki no Kangoku no uranai* (Tokyo).
6 The importance of geographical location is emphasized in Shi Jia 史嘉 (1986), 'Mao Zedong Bazi shishi 毛澤東八字試釋' (Elucidating the Eight Characters of Mao Zedong), *Zhongbao*, August, 1986, pp.13–18. (Shi Jia is a *nom-de-plume* that contains the identity of the profession of the writer when read as shijia.)
7 Among the notable practitioners and writers were Yuan Shushan, Xu Lewu and Wei Qianli. Examples of their writings are Wei Qianli 韋千里 (1955), *Bazi tiyao* 八字提要 (Hong Kong), Xu Lewu 徐樂吾 (1957), *Ziping zhenquan pingzhu* 子平真詮評駐, vols 1 and 2 (Hong Kong), and Yuan Shushan 袁樹珊 (1915), *Mingli tanyuan* 命理探源 (Shanghai), and Yuan Shushan (1939), *Mingpu* 命譜 (Shanghai, reprinted Taipei, 1981).
8 See Ho Peng Yoke (1988).

BIBLIOGRAPHY

Primary sources

Beishi 北史 Official History of the Northern Dynasties; c.670; Li Yanshou 李延壽

Baopuzi neipian 抱朴子內篇 Inner Chapters of the Book of the Preservation-of-Solidarity Master; early fourth century; Ge Hong 葛洪

Chunqiu fanlu 春秋繁露 Abundant Dewdrops from the Spring-and-Autumn; c.135 BC; Dong Zgongshu 董仲舒

(*Chunqiu*) *Zuozhuan* (春秋) 左傳 Zuo (Qiuming)'s 左 (丘明) Enlargement of the Spring-and-Autumn Annals compiled between 430 and 250 BC, with additions by Han scholars; Zuo Qiuming

Da Dai Liji 大戴禮記 Record of Rites compiled by Dai the Elder; ascribed between 70 and 50 BC, but more likely between AD 80 and 105; attributed to Dai De 戴德, but more probably by Cao Bao 曹褒

(*Da Tang*) *Kaiyuan zhanjing* 大唐開元占經 The Kaiyuan Reign-Period Treatise on Astrology; 729; Qutan Xida 瞿曇悉達 (Gautama Siddhārtha)

Dunjia jingzuan 遁甲經纂 Compilations from *Dunjia* Manuals; c.1040; compiled by Yang Weide 楊惟德 *et al*. on imperial order for inclusion in the *Wujing zongyao* as a supplement (*Wujing zongyao houji* 武經總要後集) (cf *Wujing zongyao*)

Dunjia yanyi 遁甲演義 Elucidation of the Meaning of *Dunjia*; seventeenth century (?); Cheng Daosheng 程道生

Guisi leigao 癸巳類稿 Collected Notes Classified into Sections in a *Guisi* Year; 1833; Yu Zhengxie 俞正燮

Hong Loumeng 紅樓夢 (also known as *Shitouji* 石頭記) Dreams of the Red Mansions; around 1760 with later addition; Cao Xueqin 曹雪芹, first 80 chapters; Gao E 高鶚, last 40 Chapters

Hou Han shu 後漢書 History of the Later Han Dynasty; 450; Fan Ye 范曄

Huainanzi 淮南子 The Book of (the Prince of) Huainan; c.120 BC; written by a group of scholars gathered by Liu An 劉安, Prince of Huainan

Huangting Dunjia yuanshenjing 黃庭遁甲緣身經 A Yellow Court Scripture on the Clinching of *Dunjia* to One's Body; not later than eleventh century (included in *Yunji qiqian*); author(s) unknown

Huangdi yinfujing 黃帝陰符經 The Yellow Emperor's Secret Military Warrant Manual; eighth to eleventh century; attributed to the Yellow Emperor, author unknown (titles including vast number of commentaries in the *Daozang*, including even one *Yangfujing* 陽符經, are of different nature)

Jinghuayuan 鏡花緣 Mirror of the Flowers; early nineteenth century; Li Ruzhen 李汝珍

Jingyou Dunjia fuyingjing 景祐遁甲符應經 Canon of Responsive *Dunjia* Techniques compiled during the Jingyou Reign-Period; early eleventh century; Yang Weide 楊惟德

Jingyou Liuren shendingjing 景祐六壬神定經 Canon of Spiritual Readings from the *Liuren* Boards compiled during the Jingyou Reign-Period; early eleventh century; Yang Weide

Jingyou Taiyi fuyingjing 景祐太乙福應經 Canon of Auspicious Responses from the *Taiyi* (Board) compiled during the Jingyou Reign-Period; early eleventh century, but not printed; fragments exist in a sixteenth-century Ms; Yang Weide *et al.*

Jiu Tang shu 舊唐書 Old Official History of the Tang Dynasty; 945; Liu Xu 劉昫

Jiuzhang suanshu 九章算術 (also known as *Jiuzhang suanjing* 九章算經) Nine Chapters on the Mathematical Art; first century, but containing earlier material; original author or authors unknown; Text with Commentaries in the third century by Liu Hui 劉徽

Liuren daquan 六壬大全 Complete Book on the *Liuren* system; not later than seventeenth century, said to include fragments from earlier texts; author(s) or compiler(s) unknown

Mengxi bitan 夢溪筆談 Dream Brook Essays; 1086; Shen Gua 沈括

Nan Qi shu 南齊書 Official History of the Southern Qi Dynasty; early sixth century; Xiao Zixian 蕭子顯

Nanshi 南史 Official History of the Southern Dynasties; 670; Li Yanshou 李延壽

Qiyao rangzaijue 七曜禳災決 Ways to Avert Calamities According to the Seven Luminaries; early ninth century but not before 806; Jinjuzha 金俱吒

Sanguo yanyi 三國演義 Romance of the Three Kingdoms; late fourteenth century (?); Luo Guanzhong 羅貫中 (?)

Sanming tonghui 三命通會 Compendium on the Three Kinds of Fate; mid-seventeenth century; Wang Minying 萬民英 (see under *Xingxue dacheng*)

(*Shenjizhidi*) *Taibai yinjing* (神機制敵) 太白陰經 Secret Military Manual (with Marvellous Strategies to Defeat the Enemy); c.795; Li Quan 李筌

Shiji 史記 Historical Memoirs; c.90 BC; Sima Qian 司馬遷

Shushu jiuzhang 數書九章 Mathematical Treatise in Nine Sections; 1247; Qin Jiushao 秦九韶

Shushu jiyi 數術記遺 Memoir on some Traditions of Mathematical Art; AD 190 (?); Xu Yue 徐岳

Shuihuzhuan 水滸傳 Water Margin (also rendered as 'All Men are Brothers'); late fourteenth century (?); Luo Guanzhong 羅貫中 (?)

Songshi 宋史 Official History of the Song Dynasty; c.1345; Tuotuo 脱脱 (Totaka) and Ouyang Xiu 歐陽修

Suishu 隋書 Official History of the Sui Dynasty; 636; Wei Zheng 魏徵 *et al.*

Sunzi suanjing 孫子算經 Master Sun's Mathematical Manual; between third and fifth century; Master Sun, full name unknown

Taibai yin(fu)jing 太白陰(符)經 See *Shenji zhidi Taibai yinjing*

Taiping guangji 太平廣記 Miscellaneous Records Collected during the Taiping Reign-Period; 981; Li Fang 李昉

Taixuanjing 太玄經 Canon of the Great Mystery; c.AD 10; Yang Xiong 揚雄

Taiyi jinjing shijing 太乙金鏡式經 Golden Mirror Manual for the *Taiyi* cosmic board; end of sixth century, but containing later material; Wang Ximing 王希明

Taiyi rendao mingfa 太乙人道命法 The *Taiyi* method as applied to human fate; date unknown, probably before ninth century; author(s) unknown

Taiyi taojinge 太乙淘金歌 Song of Getting the Essence (lit. Washing out Gold) in the *Taiyi* method; preface written in 1627; Liu Yangkun 劉養鯤

Taiyiju 太乙局 *Taiyi* Cosmic Board Configurations; date unknown, but incorporated in the *Gujin tushu jicheng* 古今圖書集成 compendium, hence before 1726; author(s) unknown

Wubeizhi 武備志 Treatise on Armament Technology; prefaces 1621, 1628; Mao Yuanyi 茅元儀

Wujing zongyao 武經總要 Collection of Important Military Techniques; c.1040; ed. Zeng Gongliang 曾公亮

Wuxing dayi 五行大義 Important Meanings of the *wuxing*; late sixth century; Xiao Ji 蕭吉

Xin Tang shu 新唐書 New Official History of the Tang Dynasty; 1061; Ouyang Xiu 歐陽修 and Song Qi 宋祁

Xin Yuanshi 新元史 New Official History of the Yuan (Mongol) Dynasty; 1922; Ke Shaomin 柯紹忞

Xingjing 星經 Star Manual; pre-Tang compilation from Zhou and Han star catalogues by Wu Xian 巫咸, Gan De 甘德 and Shi Shen 石申 *et al.*, but probably incomplete; compiler(s) unknown

Xingming suyuan 星命溯源 Astrology traced back to its origin; ascribed 8th century, probably later; attributed to Zhang Guo 張果, but probably by unknown author(s)

Xingming zonggua 星命總括 General Descriptions of Astrology; c.1040; attributed to Yelu Chun 耶律純, of whom no other references have emerged

Xingxue dacheng 星學大成 Compendium of Astrology; preface 1563; Wan Minying 萬民英 (also known as Wan Yuwu 萬育吾 and Yuwu shanren 育吾山人)

Xiuyaojing 宿曜經 (abridged title for *Wenshushili pusa ji zhuxian shuo jixiong shiri shan'e xiuyaojing* 文殊師利菩薩及諸仙說吉凶時日善惡宿曜經); Lunar Mansions and Luminaries *Sūtra*; 759; transmitted orally by Bu Kong 不空 (Amoghavajra); commentaries by Yang Jingfeng 楊景風 in 764

Yijing 易經 (also known as *Zhouyi* 周易); Book of Changes; traditionally attributed to King Wenwang 文王 in the second millennium BC; compiled between first and second century BC; author(s) unknown

(*Yuan*) *mishujianzhi* (元) 秘書監志 Annals of the Secretariat (of the Yuan Dynasty); fourteenth century; Wang Shidian 王士點 and Shang Qiweng 商企翁; reprinted, Hangzhou, 1992

Yunji qiqian 雲笈七籤 Seven Bamboo Tablets of the Cloudy Satchel; 1025; compiled by Zhang Junfang 張君房

Zhang Guo xingzong 張果星宗 Zhang Guo's Original Astrology; ascribed 8th century, but probably somewhat later; attributed to Zhang Guo, but probably by an unknown author

Secondary sources

(There is too great a number of modern texts on divination, written either for the professionals or intended for popular reading, for all to be listed. Besides, many of these books do not give either the real name of the author or the place of publication,

and often neither. Hence, only a few titles are selected at random for inclusion in this Bibliography.)

Andrews, W.E. (1908), *Magic Squares and Cubes* (Chicago).

Ang, Tianse 洪天賜 (1979), *I-Hsing (683–727 AD): His Life and Scientific Work*, PhD dissertation, University of Malaya (Kuala Lumpur).

Allen, Sarah (1991), *The Shape of the Turtle: Myth, Art and Cosmos in Early China* (New York).

Aphek, Edna and Yishai Tobin (1989), *The Semiotics of Fortune-telling* (Amsterdam and Philadelphia).

Baity, Philip C. (1977), 'The Ranking of the Gods in Chinese Folk Religion', *Asian Folklore Studies*, 35:75–84.

Beijing Shifan daxue guoxue yanjiusuo 北京師範大學國學研究所, ed. (1997), *Wuwang ke Shang zhi nian yanjiu* 武王克商之年研究 (Research on the Year King Wuwang Conquered the Shang Dynasty) (Beijing).

Bellini, Angelo (1947), *Girolamo Cardano e il suo tempo* (Milan).

Bennett, Steven (1978), 'Patterns of Sky and Earth: A Chinese Science of Applied Cosmology', *Chinese Science*, 3:1–25.

Bielenstein, Hans (1950), 'An Interpretation of the Portents in the *Ts'ien-Han-shu*', *Bulletin of the Museum of Far Eastern Antiquities*, 22:127–143.

—— (1984), 'Han Portents and Prognostications', *Bulletin of the Museum of Far Eastern Antiquities*, 56:97–112.

Birnbaum, Raoul (1980), 'Introduction to the Study of T'ang Buddhist Astrology: Research Notes on Primary Sources and Basic Principles', *Bulletin of the Society for the Study of Chinese Religions*, 8:5–19.

Black, Alison (1989), *Man and Nature in the Philosophical Thought of Wang Fu-chih* (Seattle and London).

Bodde, Derk (1981), 'The Chinese Cosmic Magic known as Watching for the Ethers', in Charles Le Blanc and Borei, D. eds, *Essays on Chinese Civilization* (Princeton).

Bottéro, Jean (1992), *Mesopotamia: Writing, Reasoning and the Gods* (Chicago).

Brenier, J. *et al.* (1989), 'Shen Kua (1031–1095) et les sciences', *Revue d'Histoire des Sciences*, 42.4:333–351.

Brown, David (2000), *Mesopotamian Planetary Astronomy-Astrology* (Groningen).

Campany, Robert F. (1995), *Strange Writing, Anomaly Accounts in Early Medieval China* (Albany, New York).

Carus, Paul (1974), *Chinese Astrology* (La Salle, Illinois).

Chang Cheng-lang 張政烺 (1980–1981), 'An Inscription of the Divinatory Inscriptions on Early Chou Bronzes', *Early China*, 6:80–96.

Chang, Kwang-chih 張光直 (1983), *Art, Myth and Ritual* (Cambridge, Mass.).

Chang, Yung-tang 張永堂 (1987), *Mingmo Fangshi xuepai yanjiu chubian* 明末方氏學派研究初編 (Taipei).

—— (1994), *Mingmo Qingchu lixue yu kexue guanxi zailun* 明末清初理學與科學關系再論 (Taipei).

Chao Wei-pang (1946), 'The Chinese Science of Fate-Calculation', *Folklore Studies*, 5:279–315.

Chen, Jiujin 陳久金 and Chen, Meidong 陳美東 (1978), 'Cong Yuanguang lipu de Mawangdui boshu *Wuxingzhan* zaitan Zhuanxuli wenti 從元光曆譜的馬王堆帛

書五星占再談顓頊曆問題', in *Zhongguo tianwenxueshi wenji* 中國天文學史文集 (Beijing).

Chen, Songchang 陳松長 (2000), 'Mawangdui *Boshu Xingde* jia, yi ben de bijiao yanjiu 馬王堆帛書刑德甲乙本比較研究', *Wenwu* 3:75–84.

Chigusa, Ken 千種堅 (1977), *Shichū suimeigaku* 四柱推命學 (Tokyo, 24th reprint 1981).

Chon Yonmo 全溶模 (1985), *Kiseki no Kangoku no uranai* 奇跡の韓國占い (Tokyo).

Chu, W.K. and Sherrill, W.A. (1976), *The Astrology of I Ching* (New York).

Cleary, Thomas (1986), *The Taoist I Ching* (Boston and London).

—— (1987), *The Buddhist I Ching* (Boston and London).

Cullen, Christopher (1981), 'Some Further Points on the *shih*', *Early China*, 6:31–46.

—— (1996), *Astronomy and Mathematics in Ancient China: the Zhou bi suan jing* (Cambridge).

Dampier, W.C. (1948), *A History of Science* (Cambridge).

de Bary, William T., ed. (1975), *The Unfolding of Neo-Confucianism* (New York and London).

—— (1981), *Neo-Confucian Orthodoxy and the Learning of the Mind-and-Heart* (New York).

—— (1989), *The Message of the Mind in Neo-Confucianism* (New York).

de Crespigny, Rafe (1976), *Portents of Protest in the Later Han Dynasty: The Memorials of Hsiang K'ai to Emperor Huan* (Canberra).

de Groot, J.J.M. (1890), 'On Chinese Divination by Dissecting Written Characters', *T'oung Pao* 1:239–247.

de Kermadec, Jean-Michel Huon (1983), *The Way to Chinese Astrology: The Four Pillars of Destiny* (London).

de Saussure, L. (1908), 'Le Cycle de Jupiter', *T'oung Pao* 9:5.

de Woskin, Kenneth (1983), *Doctors, Diviners and Magicians of Ancient China: Biographies of Fang-shih* (New York).

Dubbs, H.H. (1935–1955), *History of the Former Han Dynasty*, 3 vols (Baltimore).

Dull, Jack L. (1966), 'A Historical Introduction to the Apocryphal (Ch'an-wei) Texts of the Han Dynasty', PhD dissertation (University of Washington, Seattle).

Durant, Gilbert (1965), *Encyclopédie de divination* (Paris).

Eitel, Ernest J. (1984), *Feng-shui: The Science of Sacred Landscape in Old China* (London).

Eliade, M. (1951), *Shamanism: Archaic Techniques of Ecstasy* (New York).

Elliot, Alan J.A. (1955), *Chinese Spirit-Medium Cults in Singapore* (London).

Eno, Robert (1990), 'Was there a High God Ti in Shang Religion?', *Early China*, 15:1–26.

Feuchtwang, Stephan (1974), *An Anthropological Analysis of Chinese Geomancy* (Vithagna).

Forke, A. (1962), *Lun Heng*, 2 vols (Princeton).

Fu, Daiwei 傅大為 (1993–1994), 'A Contextual and Taxonomic Study of the "Divine Marvels" and "Strange Occurrences" in the *Mengxi bitan*', *Chinese Science*, 11: 3–35.

Fung, Kam-Wing 馮錦榮 (1989), 'Mingmo Qingchu Fangshi xuepai zhi chengli jiqi zhuzhang 明末清初方氏學派之成立及其主張', in Yamada, Keiji 山田慶兒 ed., *Chūgoku kudai kagakushi ron* 中國古代科學史論 (Kyoto), 139–219.

Graham, A.C. (1986), *Yin-Yang and the Nature of Correlative Thinking* (Singapore).

Gu Jiegang 顧頡剛 (1955), *Qin-Han de fangshi yu rusheng* 秦漢的方士與儒生 (Shanghai).

Hanson, Valerie (1990), *Changing Gods in Medieval China* (Princeton).

Harper, Donald (1985), 'A Chinese Demonography of the Third Century BC', *Harvard Journal of Asiatic Studies*, 45.2:459–498.

Hawkes, David (1973), *The Story of the Stone* (Harmondsworth, England).

Hayashi, Minao 林巳奈夫 (1971), 'Chōsha shutsudo So hakusho no junishin no yūrai 長沙出土楚帛書の十二神の由來', *Tōhō gakuhō*, 42:1–63.

—— (1972), 'The Twelve Gods of the Chan-kuo Period Silk Manuscript Excavated at Changsha', in Barnard, N. and Fraser, D., eds, *Early Chinese Art and its Possible Influence in the Pacific Basin*, vol. 1, 23–186 (New York).

He, Shuangquan 何雙全 (1989), 'Tianshui Fangmatan Qinjian jiazhong *rishu* zongshu 天水放馬灘秦簡日書綜述', *Wenwu*, 2:23–31.

Ho, Peng Yoke 何丙郁 (1964), 'Natural Phenomena Recorded in the *Dai-Viêt Su'-ky Toan-thu*', *Journal of the American Oriental Society*, 84.2:127–149.

—— (1966), *The Astronomical Chapters of the Chin Shu* (Paris).

—— (1969), 'The Astronomical Bureau in Ming China', *Journal of Asian History*, 3.2:135–157.

—— (1972), 'The System of the *Book of Changes* and Chinese Science', *Japanese Studies in the History of Science*, 11:23–39.

—— (1973), 'Magic Squares in East and West', *Papers in Far Eastern History*, 8:115–141.

—— (1977), *Modern Scholarship on the History of Chinese Astronomy: Occasional Paper No. 16* (Australian National University, Canberra).

—— (1982), 'In Harmony with Nature: Principles Spanning the Sciences and the Humanities', *University of Hong Kong Supplementary to the Gazette*, 29.4: all.

—— (1985a), *Li, Qi and Shu: Introduction to Science and Civilization in China* (Hong Kong).

—— (1985b), 'A Long Lost Astrological Work: the Dunhuang MS of the *Zhan yunqi shu*', *Journal of Asian History*, 19.1:1–7.

—— (1988), *Cong li, qi, shu guandian lun Ziping tuimingfa* 從理氣數觀點論子平推命法 (Looking at the *Ziping* Method of fate-calculation from the standpoint of the principles of *li, qi* and *shu*) (Hong Kong).

—— (1989), 'Yishu yu chuantong kexue de guanxi 易數與傳統科學的關係 (The relationship between I-numerology and traditional science)', *Bulletin of the Institute of History and Philology, Academia Sinica* 60.3:493–505.

—— (1991a), 'Shi cong lingyi guandian tantao Zhongguo chuantong keji de fazhan, 試從另一觀點探討中國傳統科技的發展 (Looking at the development of traditional Chinese science from another angle)', *Exploration of Nature* (Beijing), 10:27–32.

—— (1991b), 'Suanming shi yimen kexue me? 算命是一種科學麼 (Is fate-calculation a branch of science?)', *Xuecong*, 3:1–20.

—— (1991c), 'Cong *Jinghuayuan* shitan shijiushiji chuqi keji zai yiban renshi zhong de puji 從鏡花緣試探十九世紀初期科技在一般人士中的普及 (On the popularity of science and technology among scholars in general judging from the novel *Jinghuayuan*)', *Zhongguo kejishi zhuankan* 中國科技史專刊 (Taipei), 19–31.

—— (1991d), 'Chinese Science: the Traditional Chinese View', *Bulletin of the School of Oriental and African Studies*, 65.3:506–519.

—— (1992), 'Guji zhong de guaiyi jizai jinxi 古籍中的怪異記載今析 (Modern explanations of strange phenomena in ancient writings)', in Bo Shuren 薄樹人 ed., *Zhongguo chuantong keji wenhua tansuo* 中國傳統科技文化探索 (Beijing), 30–44.

—— (1993), '*Ziwei doushu* yu zhanxingshu de yuanyuan 紫微斗數與占星術的淵源 (The *Ziwei doushu* system of divination and its connection with western astrology)', *Lishi yuekan*, 68:28–50.

—— (1995), 'Cong kejishi guandian tan yishu 從科技史觀點談易數 (The *Yijing* system of divination from the standpoint of history of science)', *Zhongguo kejishi lunwenji* 中國科技史論文集 (Collected Papers on the History of Chinese Science and Technology) (Taipei), 19–34.

—— (1996a), '*Taiyi* shushu yu *Nan Qi shu* Gaodi benjishang shichen yue zhang 太乙術數與南齊書高帝本紀上史臣曰章 (The *Taiyi* method of divination and the Historiographer's Remarks in the Chronicle of Emperor Gaodi in *Nan Qi shu*)', *The Bulletin of the Institute of History and Philology, Academia Sinica*, 67.2:383–413.

—— (1996b), '*Taiyi* shushu jiqi dui chuantong kexue zhi yingxiang 太乙術數及其對傳統科學之影響 (The *Taiyi* method of divination and its influence on traditional Chinese science)', *The History of Science Newsletter*, 14:1–12.

—— (1997a), 'Astrology in China', in Selin, Helaine, ed., *Encyclopaedia of the History of Science, Technology and Medicine in Non-Western Cultures* (Dordrecht), 76–78.

—— (1997b), *Zhuge Liang yu Qimen Dunjia* 諸葛亮與奇門遁甲, *1997 Wu Teh Yao Memorial Lecture* (Singapore).

—— (1998), 'Cong kexueshi guandian shitan *Qimen Dunjia* 從科學史觀點試談奇門遁甲', *Journal of Northwest University (Natural Science Edition)*, 12.1:1–3; 12.2:92–97.

—— (1999), 'Science in Chinese Fiction: Zhuge Liang's Magical Arts and Method of Weather Forecasting', Hong Kong East Asian History of Science Foundation Second Joseph Needham Memorial Lecture, 9 December 1999, Hong Kong.

—— (2001), *He Bingyu Zhongguo Kejishi lunji* 何丙郁中國科技史論集 (Liaoning).

—— (forthcoming 2003), 'Chinese number mysticism', in Bergmans, Luc and Koetsier, Teun, *Mathematics and Views of the Divine: A Historical Study* (North Holland).

—— (forthcoming), *Zhongguo shushushi* lunwenji 中國術數史論文集 (Taipei).

Ho, Peng Yoke and Ho, Koon-piu 何冠彪 (1986), *Dunhuang canjuan zhan yunqi shu* 敦煌殘卷占雲氣書 (The fragmentary Dunhuang MS *Zhan yunqi shu*) (in Chinese) (Taipei).

Ho, Peng Yoke and May Wang (1993), 'Kuo Shou-ching', in Igor de Rachewiltz *et al.*, eds, *In the Service of the Khan: Eminent Personalities in the Early Mongol-Yuan Period (1200–1300)* (Wiesbaden), 282–299.

Ho, Pingyu (Ho, Peng Yoke) and Needham, J. (1959), 'Ancient Chinese Observations of Haloes and Parhelia', *Weather*, 14:124–134.

Hoang, Pierre (1904), *A Notice of the Chinese Calendar* (Zi-ka-wei).

Holzman, D. (1958), 'Shen Kua and his Meng-Ch'i Pi-Tan', *T'oung Pao*, 46:260–292.

Hori, Tsuyoshi (1988), 'Youguan Yunmeng Qinjian de ziliao he zhushu mulu 有關雲夢秦簡的資料和著作目錄', in *Qin-Han Fazhishi lunkao* 秦漢法制史論考 (Beijing).

Hsu, Cho-yun 許倬雲 (1975), 'The Concept of Predetermination and Fate in the Han', *Early China*, 1:51–56.

Hu, Daojing 胡道靜 (1985), *Mengxi bitan* 夢溪筆談 (Shanghai).
Hu, Houxuan 胡厚宣 (1959), 'Yin buci zhong de shangdi he wangdi 殷卜辭中的上帝和王帝', *Lishi yanjiu*, 9:23–50; 10:89–110.
Huang, Yi-long 黃一農 (1989), 'Zhongguo gudai kuiguan kao 中國古代窺管考', *The History of Science Newsletter*, 8:28–37.
—— (1990), 'The Controversy over Selection of Auspicious Dates and Anti-Christian Movements in the K'ang-hsi Reign-Period', Paper for the Sixth International Conference on the History of Science in China, 2–7 August 1990 (Cambridge).
—— (1992a), 'Jixing yu gu *du* kao 極星與古度考', *Tsing Hua Journal of Chinese Studies* 22.2:93–117.
—— (1992b), 'Dunhuang ben juzhu liri xintan 敦煌本具注曆日新探', *Xin shixue* 新史學, 3.4:1–56.
—— (1993), 'Qing qianqi dui *siyu* dingyi ji cunfei de zhengzhi: shehui tianwenxueshi ge'an yanjiu 清前期對四餘定義及存廢的爭執：社會科學史個案研究', *Ziran kexueshi yanjiu*, 12.3:201–210; 12.4:344–354.
—— (1999), 'A Study on the Tradition of Selecting Auspicious Time and Space in Chinese Society through the Strips Excavated at Yinwan Han Tomb' (in Chinese), Paper presented at the Fifth Symposium on the History of Science and Technology, Nankang, 27–28 March 1999.
Hwang, Chang-Chien 黃彰健 (1999), *Wuwang fa Zhou nian xinkao: bing lun Yinlipu de xiuding* 武王伐紂年新考：並論殷曆譜的新訂 (Taipei).
Ishida, Mikinosuke 石田幹之助 (1950), *Tōyōshi ronsō* 東洋史論叢 (Kyoto).
Jao, Tsung-i 饒宗頤 (1982), 'Yindai yigua ji youguan zhanbu zhu wenti 殷代易卦及有關諸問題', *Wenshi*, 20:1–13.
—— (1983), 'Further Comments on the *Yunmen Ch'in chien Jih shu*', Paper for the ACLS Workshop on Divination and Portent Interpretation in Ancient China, 20 June–2 July 1983, University of California, Berkeley.
—— (1990), *Li Weigong wang Jiangnan* 李衛公望江南 (Taipei).
—— (1993a), 'Mawangdui *Xingde* yiben *Jiugongtu* zhushen shi 馬王堆乙本九宮圖諸神釋', *Jianbo yanjiu* 簡帛研究, 1:89–119.
—— (1993b), 'Tan Yinqueshan jian *Tiandi Bafeng Wuxing Kezhu Wuyin zhi ju* 談銀雀山簡天地八風五行客主五音之居', *ibid*. 1:113–119.
Jao, Tsung-i and Zeng Xiantong 曾憲通 (1982), *Yunmeng Qinjian rishu yanjiu* 雲夢秦簡日書研究 (Hong Kong).
—— (1985), *Chu boshu* 楚帛書 (Hong Kong).
Jiang, Guanghui 姜廣輝 ed. (1999), *Guodian Chujian yanjiu* 郭店楚簡研究 (Studies on the Chu Slips of Guodian) (Shenyang, China).
Jiang, Xiaoyuan 江曉原 and Niu, Weixing 紐衛星 (2000), *Huitian: Wuwang fa Zhou yu Tianwen Lishi Niandaixue* 回天：武王伐紂與天文歷史年代學 (Shanghai).
Jingzhou diqu bowuguan 荊州地區博物館 (1995), 'Jiangling Wangjiatai 15 hao Qinmu 江陵王家台15號出土秦墓', *Wenwu* 1:37–43.
Kalinowski, Marc (1982), 'Cosmologie et gouvernement naturel dans le *Lu Shi Chun Qiu*', *Bulletin de l'Ecole Française d'Extrême-Orient*, 71:169–216.
—— (1983), 'Les instruments astro-calendriques des Han et la méthode *liuren*', *Bulletin de l'Ecole Française d'Extrême-Orient*, 72:309–419.
—— (1986), 'Les Traités de Shuihudi et l'Hemerologie Chinoise à la Fin des Royaumes-Combattants', *T'oung Pao*, 72:175–228.

—— (1990), 'Scientific Literature in the *Wuxing dayi*', Paper for the Sixth International Conference on the History of Science in China, 2–7 August 1990 (Cambridge).

—— (1991), *Cosmologie et Divination dans la Chine Ancienne: Le Compendium des Cinq Agents* (Paris).

—— (1998–99), 'The *Xingde* Texts from Mawangdui', *Early China*, 23–24:125–202.

Kao, Karl S.Y. ed. (1985), *Classical Chinese Tales of the Supernatural and the Fantastic* (Bloomington, Indiana).

Keightley, David (1983), 'Royal Shamanism in the Shang: Archaic Vestige or Central Reality?', Paper for the ACLS Workshop on Divination and Portent Interpretation in Ancient China, 20 June–2 July 1983, University of California, Berkeley.

Kennedy, E. S. (1956), 'A Survey of Islamic Astronomical Tables', *Transactions of the American Philosophical Society*, 46.2:123–177 (Philadelphia).

—— (1964), 'Ramifications of the World-Year Concept in Islamic Astrology', *Ithaca: Actes du dixième Congrès international d'histoire des sciences* (Paris), 23–45.

Kim, Yung-sik 金永植 (1995), 'Chu Hsi on Matter, Motion, etc.: What Did a Traditional Chinese Thinker Think about the Ideas that Were Important in the Western Scientific Tradition?' Seminar paper delivered at the National Tsing Hua University, Hsinchu, 24 January 1995.

Kohn, Livia (1986), 'A Textbook of Physiognomy: The Tradition of the *Shenxiang quanbian*', *Asian Folklore Studies*, 45.2:227–257.

Kudō, Motoo 工藤元男 (1986), 'Suikochi Shinbō chikukan Nissho ni tsuite 睡虎地秦墓竹簡日書について', *Shiteki* 7:15–39.

—— (1988), 'Shuikochi Shinbō chikukan Nissho yori mieta hō to shūzoku 睡虎地秦墓竹簡日書より見えた法と習俗', *Mokkan kenkyū*, 10:113–129.

—— (1990), 'The Ch'in Bamboo Strip Book of Divination (Jih-shu) and Ch'in Legalism', *Acta Asiatica*, 58:24–37.

Lam, Lay Yong 藍麗蓉 (1977), *A Critical Study of the Yang Hui Suan Fa* (Singapore).

le Blanc, Charles (1985), *Huai-nan Tzu: Philosophical Synthesis in Early Han Thought* (Hong Kong).

Lee, Eun-Hee 李銀姬, 'Xi Zhou tianxiang he juedui niandai 西周天象和絕對年代 (Astronomical phenomena of Western Zhou Dynasty)', *Ziran kexueshi yanjiu*, 19.3:274–283.

Legge, James (1861), *The Chinese Classics*, vol. 1, book 2 (*Confucian Analects, the Great Learning, and the Doctrine of the Mean*, tr.) (London and Hong Kong).

—— (1882), *The Yi King* (Oxford).

Lei, Hsianglin 雷祥麟 and Fu, Daiwei (1993), 'Language and Similarity in the Dream Book – Study of Prognostication, Divine Oddities, and Strange Events in *Mengxi bitan*', *Tsing Hua Journal of Chinese Studies*, 23.1:31–60.

Lessa, William (1968), *The Chinese Body Divination: Its Forms, Affinities, and Functions* (Los Angeles).

Li, Jiemin 李解民 (2000), '*Yinwan Hanmu Bojuzhan mudu shijie* dingbu 尹灣漢墓博局占木牘試解訂補', *Wenwu*, 8:73–75.

Li, Ling 李零 (1993) first edition, (2000) revised edition, *Zhongguo fangshu kao* 中國方術考 (Beijing).

—— , ed. (1993), *Zhongguo fangshu gaiguan* 中國方術概觀, 2 vols (Beijing).

Li Xueqin 李學勤 (1994), *Jianbo yizhi yu xueshu shi* 簡帛佚籍與學術史 (Taipei).

Li Xueqin *et al.* (2000), *Xia-Shang-Zhou duandai gongcheng: 1996–2000 nian jiaduan chengguo baogao* 夏商周斷代工程: 1996–2000 年价段成果報告 (Beijing, Guangzhou, Shanghai, Xi'an).

Li, Yan 李儼 (1935), *Zhongsuanshi luncong* 中算史論叢 (Shanghai).

Liaowu jushi 了無居士 (*nom-de-plume*) (undated), *Doushu paipan sucheng* 斗數排盤速成 (Taipei).

Libbrecht, U. (1973), *Chinese Mathematics in the Thirteenth Century: The Shu-shu chiu-chang of Ch' in Chiu-shao* (Cambridge, Mass.).

Lih, Ko-Wei 李國偉 (1986), 'Lun Bao Qishou de hunhuantu 保其壽的渾圜圖', *Kejishi tongxun*, 5 (Supplement) 2:67–79.

Liu, Lexian 劉樂賢 (1994), *Shuihudi Qinjian Rishu yanjiu* 睡虎地秦簡日書研究 (Taipei).

Lloyd, G.E.R. (1979), *Magic, Reason and Experience* (Cambridge).

—— (1984), *The Archaeology of Mesopotamia* (London).

Loewe, Michael (1979), *Ways to Paradise: The Chinese Quest for Immortality* (London).

—— (1982), *Chinese Ideas of Life and Death* (London).

—— (1988a), 'The Almanacs (*jih-shu*) from Shui-hu-ti', *Asia Major* 3rd series, 1.2:1–28.

—— (1988b), 'The Oracles of the Clouds and the Winds', *Bulletin of the School of Oriental and African Studies*, 51:500–520.

—— (1988c), 'Divination by Shells, Bones and Stalks during the Han Period', *T'oung Pao* 74:81–118.

Loewe, Michael and Blacker, Carmen, eds (1981), *Oracles and Divination* (Boulder, Colorado).

Luo Guicheng 羅桂成 (1982), *Tang-Song Yin-Yang wuxing lunji* 唐宋陰陽五行論集 (Hong Kong).

Major, John (1980), 'Astrology in the *Huai-nan-tzu* and Some Related Texts', *Bulletin of the Society for the Study of Chinese Religions*, 8(Fall):21–31.

March, Andrew (1968), 'An Appreciation of Chinese Geomancy', *Journal of Asian Studies*, 27.2:252–267.

Maspero, H. (1981) trans. Kierman, F.A., *Taoism and Chinese Religion* (Amherst, Mass.).

Meyer, Jeffrey (1978), 'Feng-shui of the Chinese City', *History of Religions*, 18.2:138–155.

Morgan, Carole (1980), *Le tableau du boeuf du printemps: étude d'une page de l'almanach chinois* (Paris).

—— (1980a), 'A Short Glossary of Geomantic Terms', *Journal of the Hong Kong Branch of the Royal Asiatic Society*, 20:209–214.

—— (1987), 'A propos des fiches oraculaires de Huang Daxian', *Journal Asiatique*, 275.1–2:163–191.

Morley, Henry (1854), *The Life of Girolamo Cardano of Milan, Physician*, 2 vols (London).

Mostaert, Antoine (1969), *Manual of Mongolian Astrology and Divination* (Cambridge, Mass.).

Nakamura, Shōhachi 中川彰八 (1984), *Wuxing dayi jiaozhu* 五行大義校註 (Tokyo).

Nakayama, Shigeru 中山茂 (1966), 'Characteristics of Chinese Astrology', *Isis*, 57.4:442–454.

—— (1979), *Senseijitsu* 占星術 (Tokyo).

Needham, Joseph, *et al.* (1954–), *Science and Civilisation in China*, 7 vols. [Fourth volume onwards consists of multiple sub-volumes; 15 physical volumes were completed during the lifetime of Needham and others continued to be written by different authors organized through the Needham Research Institute for publication (Cambridge). See especially Needham (1956), (1959) and (1962).]

Needham, J. (1956), *Science and Civilisation in China*, vol. 2 (Cambridge).

—— (1959), *Science and Civilisation in China*, vol. 3 (Cambridge).

—— (1962), *Science and Civilisation in China*, vol. 4, part 1 (Cambridge).

Neugebauer, O. (1975), *A History of Ancient Mathematical Astronomy* (Berlin).

Ngo, Van Xuyet (1976), *Divination, magic et politique dans la Chine ancienne* (Paris).

Niu, Weixing 紐衛星 and Jiang Xiaoyuan 江曉原 (1998), 'On the Ephemerides in *Qiyao rangzaijue*', Paper presented at the third International Conference on Oriental Astronomy, 26–29 October 1998, Fukuoka.

Ogilvie, R.M. (1969), *The Romans and Their Gods in the Age of Augustus* (New York).

Palmer, Martin, ed. and trans. (1986), *T'ung Shu: The Ancient Chinese Almanac* (Boston).

Pang, Pu 龐朴 (1985), 'Origin of the Yin-Yang and Five Elements Concepts', *Social Sciences in China*, 6.1:91–131.

—— (1999), 'New Idea on the Birth of the Universe – On Bamboo Slips of the Ancient Chu State Unearthed in Guodian (2)', *Root Exploration*, 28:5–6.

Park, George (1963), 'Divination and its Social Contexts', *Journal of the Royal Anthropological Institute*, 93.2:195–209.

Parker, A.P. (1888), 'The Chinese Almanac', *Chinese Recorder*, 19.2:61–74.

—— (1888a), 'Review of the Imperial Guide to Astrology', *Chinese Recorder*, 19.11:493–499, (ctd) 547–554.

Peterson, Willard (1979), *Bitter Gourd: Fang I-chih and the Impetus for Intellectual Change* (New Haven and London).

Pingree, David (1972), 'Precession and Trepidation in Indian Astronomy before AD 1200', *Journal for the History of Astronomy* 3:27–35.

—— (1973), 'Astrology', in *Dictionary of the History of Ideas*, vol. I (New York), 118–126.

—— (1978), *The Yavanajāta ka of Sphujidhvaja*, *Harvard Oriental Studies*, no. 48.

—— (1999), '*Amṛtalaharī* of *Nityānanda*', American Oriental Society 1999 Meeting, Baltimore, 21–24 March.

Poo, Mu-chou 蒲慕州 (1992), 'Shuihudi Qinjian *rishu* de shijie 睡虎地秦簡日書的世界', *Bulletin of the Institute of History and Philology*, 62.4:623–675.

—— (1993), 'Popular Religion in Pre-Imperial China: Observations on the Almanacs of Shui-hu-ti', *T'oung Pao*, 79:225–248.

—— (1998), *In Search of Personal Welfare: A View of Ancient Chinese Religion* (New York).

Porter, Jonathan (1980), 'Bureaucracy and Science in Early Modern China: The Imperial Astronomical Bureau in the Ch'ing Period', *Journal of Oriental Studies* 18:61–76.

—— (1982), 'The Scientific Community in Early Modern China', *ISIS*, 73:529–544.

Qian, Baozong 錢寶琮 (1932), 'Taiyi kao 太一考', *Yanjing xuebao*, 12:2449–2479. The form of the name is Qian's personal preference, but more correctly in *pinyin* is Qian, Baocong.

Qu, Anjing 曲安京 (1992a), 'Dong-Han dao Liu-Song shiqi lifa shangyuanjinian jisuan 東漢到劉宋時期曆法上元積年計算', *Acta Astronomica Sinica*, 32:4436–4439.

—— (1992b), 'Tang Song lifa yanji shangyuan shili ji suanfa fenxi 唐宋曆法演紀上元實例及算法分析', *Studies in the History of Natural Sciences*, 10.4:315–326.

Rhine, J.B. (1937), *New Frontiers of the Mind* (reprint Pelican, London, 1950).

Sakade, Yoshinobu 阪出祥伸 (1996), *Ki to Dōkyō: Hōjutsu no Sekai* 氣と道教：方術の世界 (Tokyo).

Sangren, P. Steven (1987), *History and Magical Power in a Chinese Community* (Stanford).

Saso, Michael (1978), 'What Is the Ho-t'u?', *History of Religions*, 17.3–4:399–416.

Schafer, Edward (1977), *Pacing the Void: T'ang Approaches to the Stars* (Berkeley, Los Angeles and London).

Seaman, Gary (1986), 'Only Halfway to Godhead: The Chinese Geomancer as Alchemist and Cosmic Pivot', *Asian Folklore Studies*, 45:1–18.

Shaughnessy, Edward (1983), 'Divination with the *Zhouyi*', Paper for the ACLS Workshop on Divination and Portent Interpretation in Ancient China, 20 June–2 July 1983, University of California, Berkeley.

Shchutskii, Julian (1980), *Researches on the I Ching* (London).

Shi Jia 史嘉 (*nom-de-plume*) (1986), 'Mao Zedong Bazi shishi 毛澤東八字試釋 (Elucidating the Eight Characters of Mao Zedong)', *Zhongbao* 中報, August 1986, 13–18.

Shinsei, Shinzō 新城 新藏 (1929), *Toyō temmongakushi kenkyū* 東洋天文學史研究 (Tokyo).

Shuihudi Qinmu zhujian Zhengli xiaozu 睡虎地秦墓竹簡整理小組 (1990), *Shuihudi Qinmu zhujian* 睡虎地秦墓竹簡 (Beijing).

Sivin, Nathan (1969), *Cosmos and Computation in Early Chinese Mathematical Astronomy* (Leiden).

—— (1975), 'Shen Kua', *Dictionary of Scientific Biography* (New York), 369–393.

—— (1982), 'Why the Scientific Revolution Did not Take Place in China – or Didn't It?' *Chinese Science*, 5:45–66.

Smith, Kidder (1989), '*Zhouyi* Divination from Accounts in the *Zuozhuan*', *Harvard Journal of Asiatic Studies*, 49.2:421–463.

Smith, Kidder *et al.* (1990), *Sung Dynasty Uses of the I Ching* (Princeton).

Smith, Richard J. (1988), 'A Note on Qing Dynasty Calendars', *Late Imperial China*, 9.1:123–145.

—— (1990), 'Qing Dynasty *Yijing* Specialists in Yuan Shushan's *Zhongguo lidai burenzhuan*', *Zhouyi Network*, 5:13–30.

—— (1990a), 'Divination, Science and Medicine in Qing China', Paper for the Sixth International Conference on the History of Science in China, 2–7 August 1990, Cambridge.

—— (1991), *Fortune-Tellers and Philosophers: Divination in Traditional Chinese Society* (Boulder, San Francisco and Oxford).

Soymi, Michel (1981), 'Un calendrier de douze jours par an dans les manuscrits de Touen-houang', *Bulletin de l'Ecole Française d'Extrême-Orient*, 69:209–228.

Stocchi, Sandro (1998), 'The Chinese Way to the Solution of Numerical Equations, from Wang Hsiao-Thung (+7th century) to G. Giovarosi, Italy (+1899–1944): the rediscovery of the general procedure', International Colloquium on Transmission and Transformation of Mathematical Thought: A Comparative Approach, 4–8 October 1998, Central China Normal University, Wuhan, China.

Tambiah, Stanley J. (1990), *Magic, Science, Religion and the Scope of Rationality* (Cambridge).
Teraji, Jun 寺地尊 (1967), 'Shin Katsu no shizen kenkyū to sono haikei', *Hiroshima Daigaku Bungakubu Kiyö*, 27.1.
Tiryakian, Edward, ed. (1974), *On the Margin of the Visible* (New York, London).
Toomer, G.J. (1984), *Ptolemy's Almagest* (London).
Vandermeerch, Leon (1983), 'The Origin of Milfoil Divination and the Primitive Form of the *I-Ching*', Paper for the ACLS Workshop on Divination and Portent Interpretation in Ancient China, 20 June–2 July 1983, University of California, Berkeley.
Volkov, A. (1999), 'From Numerology to Arithmetic: the Early Chinese Counting Devices', Paper presented at the Fifth Symposium of Science and Technology, 26–27 March 1999, Taipei.
Walters, Derek (1983), *The T'ai Hsuan Ching* (Wellingborough, Northamptonshire).
—— (1987), *Chinese Astrology* (Wellingborough, Northamptonshire).
Wang, Rongbin 王榮彬 (1990), 'Ding Yidong dui zonghengtu de yanjiu 丁易東對縱橫圖的研究', *Shuxueshi yanjiu wenji* 數學史研究文集, 1:74–82.
Wang, Yucheng 王育成 (1991), 'Dong-Han daofu shili 東漢道符釋例', *Kaogu xuebao*, 1:45–55.
Wei, Henry (1987), *The Authentic I-Ching* (San Bernardino, CA).
Wei, Qianli 韋千里 (1955), *Bazi tiyao* 八字提要 (Hong Kong).
Wei, Songshan 魏嵩山, ed. (1995) *Zhongguo lishi diming Dacidian* 中國歷史地名大辭典 (Nanhai, Guangdong province).
Wei, Tat (1970), *An Exposition of the I-Ching* (Taipei).
West, Andrew (1998), *Catalogue of the Morrison Collection of Chinese Books* (London).
Wilhelm, Hellmut (1959), '*I Ching* Oracles in the *Tso-chuan* and *Kuo-yu*', *Journal of the American Oriental Society*, 79.4:275–280.
—— (1960), *Change: Six Lectures on the I Ching* (New York).
—— (1977), *Heaven, Earth and Man in the Book of Changes* (Seattle).
Wilhelm, Richard, trans. (1967), *The I Ching or Book of Changes* (New York).
—— (1979), *Lectures on the I Ching* (Princeton).
Wolf, A.P. (1974), 'Gods, Ghosts and Ancestors', in Wolf, A.P. ed., *Religion and Ritual in Chinese Society* (Stanford), 131–182.
Wu, Jiulong 吳九龍 (1985), *Yinqueshan Hanjian shiwen* 銀雀山漢簡釋文 (Beijing).
Wu, Yu-lin 伍玉玲 (1995), *Memoirs of Dr. Wu Lien-teh: Plague Fighter* (Singapore).
Xiao, Nan 肖楠 (1989), 'Anyang Yinxu faxian *Yigua* bujia 安陽殷墟發現卜甲', *Kaogu*, 256.1:66–70.
Xing, Wen 邢文 (1997), *Boshu Zhouyi yanjiu* 帛書周易研究 (Studies of the *Zhouyi Silk Ms*) (Beijing).
—— (2000), 'Qinjian *Guicang* yu *Zhouyi* yong shang 秦簡歸藏與周易用商', *Wenwu*, 2:58–63.
Xu, Lewu 徐樂吾 (1957), *Ziping zhenquan pingzhu* 子平真詮評駐, vols 1 and 2 (Hong Kong).
Xu, Xitai 徐錫台 (1982), 'Shu yu *Zhouyi* de tantao 數與周易的探討', in *Zhouyi zongheng lu* 周易縱橫錄 (Wuhan), 197–222.
Yabuuti, Kiyosi 藪內清 (1969), *Chūgoku no temmon rikkihō* 中國の天文曆法 (Tokyo).

—— (1987), 'The Influence of Islam Astronomy in China', in *Deferent to Equant: A Volume of Studies in the History of Science in the Ancient and Medieval Near East in Honor of E.S.* Kennedy (New York), 547–559.
—— (1999) (9th reprint), *Chūgoku no kagaku to bummei* 中國の科學と文明 (Tokyo).
Yamada, Keiji 山田慶兒 (1980), 'Kyūkyū pappü setsu to shōshihai no tachiba 九宮八風説と少師派の立場', *Tōhō gakuhō*, 52:199–242.
Yan, Dunjie 嚴敦杰 (1982), trans. into Japanese by Hashimoto, Keizō 橋本敬造 and Sakade, Yoshinobu 阪出祥伸, 'Shikibon sō jutsu 式盤綜述', in Hashimoto, K. *et al.*, eds, *Science and Skills in Asia* (Kyoto), 62–95; (1985) original Chinese version 'Shipan zongshu', *Kaogu xuebao*, 4:445–464.
Yan, Pingqiu (1989), 'Ceremonies of Milfoil Divination', *Zhouyi Network*, 4(March):5–11.
Yang, Zhangneng 楊樟能 (1990), '*Xuanzhenzi* zhong de wuli zhishi 玄真子中的物理知識', *China Historical Materials of Science and Technology* 48(11)4:88–90.
Yano, Michio 矢野道雄 (1986), *Mikkyō no senseijitsu* 密教の占星術 (Tokyo).
—— (1997), *Kūyār Ibn Labbān's Introduction to Astrology* (Tokyo).
Yuan, Shusan 袁樹珊 (1915), *Mingli tanyuan* 命理探原 (Shanghai).
—— (1939), *Mingpu* 命譜 (Shanghai, reprinted Taipei, 1981).
—— (1948), *Zhongguo lidai buren zhuan* 中國歷代卜人傳 (Shanghai).
—— (1987 reprinted, first published 1920s?), *Da Liuren tanyuan* 大六壬探原 (Taipei, original edition Shanghai?).
Zhou, Shirong 周世榮 (1990), 'Mawangdui Hanmu de *Shenditu* bohua 馬王堆漢墓的神祇圖帛畫', *Kaogu*, 277.10:925–928.
Zhu, Wenxin 朱文鑫 (1933), *Tianwen kaogulu* 天文考古錄 (Shanghai).
—— (1934), *Lifa* tongzhi 曆法通志 (Shanghai).
Zinnie, Serguei (1998), 'Numerological Restrictions in Traditional Chinese Medicine', Paper presented at the Eighth International Conference on the History of Chinese Science, 26–30 August 1998, Berlin.

INDEX

Page references for figures and tables are in *italics*; those for notes are followed by n